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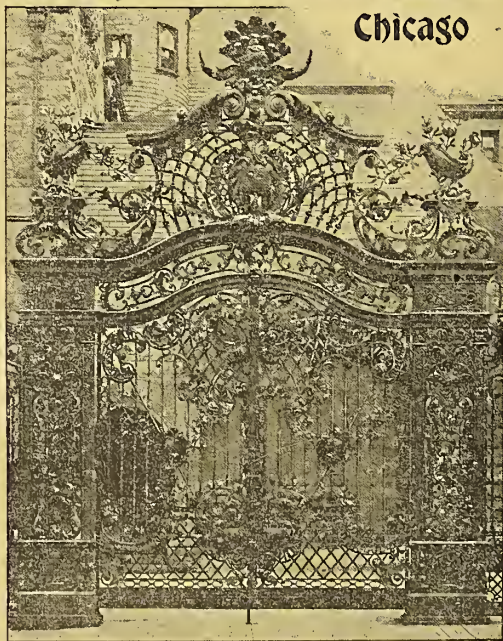
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Vol. XXVII. FEBRUARY, 1896. No. 1



A Monthly Journal Devoted to
ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
19 Tribune Building, Chicago, Ill.

L. MULLER, Jr., Manager. ROBERT CRAIK MCLEAN, Editor.

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photo-gravures), \$1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

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The bill for the authorization of the appointment of a special architect to design a new post office for Chicago and appropriating \$25,000 for this purpose, to be added to the \$30,000 which was appropriated some months ago, and to include superintendence, has passed the house and senate. It was interesting to note that Mr. Crisp, during the discussion, suggested the abolition of the Supervising Architect's office and that government work be done by private practitioners, and that Mr. Atwood, of Massachusetts, stated that being a practical architect he would state that \$55,000 was altogether too small a commission for the designing and erection of a \$4,000,000 building. While it is more than probable that the McKaig bill, governing the erection of public buildings in the United States, will shortly be passed by Congress and become a law, the discussions both in house and senate are frequent and general regarding the advisability of appointing an architect to design a post office building for Chicago. It is understood that this move is in the direction of taking the designing out of the Supervising Architect's office, and seems to meet with general approval among congressmen and senators, the principal opponent being a senator from Arkansas. In a friendly spirit the Chicago *Evening News* reassures that gentleman in a way that is worth quoting, as it so clearly outlines the position of most of the opponents to the McKaig bill, as well as this special measure:

Let Senator Berry be reassured. He was moved to astonishment and indignation yesterday because it was proposed in the upper house to set apart \$25,000 of the Chicago post office appropriation for the purpose of employing a competent architect to "assist" the Treasury Department in preparing plans for the structure.

The evolution of the gentleman from Arkansas is easily analyzed. He thought he saw in this proceeding the thin edge of the wedge which shall destroy that style of public architecture which is enshrined in the hearts of all Arkansians. Senator Berry comes from a town called Bentonville, which has 1,600 inhabitants and is the county seat. His architectural ideal is the Bentonville courthouse. This noble edifice is an exact cube of red brick, two stories high, surmounted by a small round red cupola which has the jaunty effect of a little high cap set on the middle of a large bald head.

Senator Berry's neighbors for three generations have been reared in the reverential belief that civic dignity cannot be expressed architecturally save as their courthouse expresses it. The enormous city hall at Little Rock, sixty feet long and four stories high, with its Greek portico and Arkansas cornice, only confuses and saddens them as a riotous departure from their simple ideal. Senator Berry knows that in the years to come now and then a good man from Bentonville will journey even as far as Chicago. He wishes them to find here something that will remind them of home, something that, amid the turmoil and distractions of a great city, will inspire their simple reverence and patriotism. Hence he wishes to have Mr. Carlisle's men make the plans for the Chicago post office.

But Senator Berry is borrowing trouble. The new post office will not be designed on Bentonville lines, but we have much else that is. Let the senator rest assured that in a great city like Chicago there will always be buildings of such conspicuous ugliness that he and his neighbors can look at them in peace.

When the chief opponent of any measure that is intended to lift this country into a higher plane of art as well as to keep pace with general progress, is from Arkansas or Oklahoma, and it has for its friends and supporters the representatives of advanced thought, the ultimate result can easily be prophesied. That the McKaig bill will be reported favorably upon by the House Committee on Buildings and Grounds, and be passed by house and senate, is practically assured. Although it has been a matter of regret that the close of the last general Congress found the bill still before the senate, necessitating its being again considered by a new committee and entered under new conditions, the general discussion of its provisions have not injured but greatly aided its cause. While the

appointment of a special architect for the new post office at Chicago would be a move in the direction of amending the many evils of the old system, it would only prolong the struggle for a thorough divorce of the designing of public buildings by clerks in the employ of the Treasury Department.

Propositions to Limit the Height of Buildings. That a definite movement in the direction of restricting the height of buildings in the United States has been inaugurated is apparent. Massachusetts and Illinois have already taken action, and New York and St. Louis are preparing state and municipal enactments in the same direction. The more notable of the latter is a bill now before the legislature of the state of New York, the special significance of which is that it was drawn largely by Mr. George B. Post. It is curious to note that in the case of New York the movement is supported by an architect who has designed more of the style of structure which the bill seeks to prohibit than any other architect, while in Chicago the chief supporters of the measure were largely those who had never constructed a structure that had more than six stories. In St. Louis the movement has been taken up by the St. Louis Chapter, the sixteen members of which, present at a recent meeting, discussed the subject for five hours. A draft of ordinance prepared by Professor Halsey C. Ives, with some amendments proposed by the Chapter, will be presented to the city council for passage, with the unanimous support of the Chapter. After defining "a first class building," those over ninety feet high are so designated, and must be fireproofed, the non-inflammable parts being specified. All public buildings ranging from hotels to asylums are also specified as first-class, also all hotels or office buildings of more than three stories. The main departure from the general trend of such measures is in the direction of allowing buildings to be constructed to any height under certain conditions. The plan is similar to that suggested by Architects Adler & Sullivan, some years ago, in a design for an Odd Fellows' building, not erected. This provides that when a height of two and one-quarter times the width of a given street is reached on the building line, a set-off may be made and the structure continued until the angle from the center of the street to the top of the building line corner is reached. This, on a street 60 feet wide on a lot 125 feet deep, would allow for a structure of twenty-five stories. The ordinance also provides that "domes and towers, etc.," shall not be considered in this limitation.

A Better Quality of Fireproofing Necessary. What will be gained by these proposed enactments and how long they will remain active and operative is hard to prophesy. In Chicago, after trying a limit of 130 feet, an amendment has been secured permitting a height of 155 feet, and so it is probable that limitation will prevail only as long as those in favor are in the majority in the government of municipal affairs. The St. Louis plan has some elements of science for its basis. In no other case has the height been limited to conform with scientific or hygienic principles. Even in St. Louis the height is governed by the widest street, the denizens of the narrow cross streets having to take their chances for light and air with those of other cities. We will not attempt to criticise the movement, as its good and bad qualities

seem to be about equally divided, but it is certain that the modern structure is dependent largely upon the method of construction for its stability and fire-resisting qualities. In the latter case, architects and clients have been too thoroughly careless of the public interest and have allowed the close competition between fireproofing companies to force down the price of such work so that thorough work is exceptional. It takes money to build well, and though any standard fireproofing company will do "a good job for the money," they have been required to furnish material and labor at so low a cost as to preclude the improvement in method that was fast becoming perfect several years ago and which of late has turned in the direction of cheap work. If the St. Louis proposition, to make all buildings of over three stories fireproof, becomes a law, and then a standard be set upon which all fireproofing shall be done, the public will receive a real benefit. The fireproofing companies have contended for this for years and have lost money in trying to maintain a standard set by themselves, the pioneer manufacturer being forced out of business largely by refusing to depart from safe and reliable work, and now it is time for architects to come to their aid and insist upon owners paying for the best methods that can be devised to make the fire-resisting qualities of their buildings a fact and not a sham.

Control of Public Work by an Art Commission. The idea that a capable art commission should control the erection of all public buildings is not new or especially to be recommended, though it seems to be the only method by which the usual monstrosity which represents the art of the political architect can be controlled. It is a Boston idea and may become a law in that city. If the ordinary legislator was a man of brains instead of a combination of ignorance and conceit such a measure would hardly be necessary; but, alas! "God made him; let him pass for a man." No sooner does it occur to a municipality that it requires a courthouse than an advertisement is issued telling architects that if they will present plans that they will be looked at, and returned, save two or three to the authors of which a few hundred dollars may be given, "the plans to become the property of the city." No adjudication by experts, no definite surety that they will be judged on their merits, but, to the contrary, every indication that he who lobbies hardest and has the greatest influence with the cities' representatives will be appointed architect. Detroit has such a case in hand today, and almost every city in the country has had its experience in this line. An art commission might do some good; but, after influence and not merit had engaged an architect and the contract was signed, how could a commission perform the miracle of securing a good design if the designer was not capable? It is not possible that any city would give such a commission full authority from the start and allow it to manage the competition and accept its verdict without question; and otherwise it would seem useless to pretend that its power would even cause the draping of the Goddess of Liberty over the judges' seat in the courtroom. It is time, however, that such a control was exercised in relation to all public buildings, because custom has decreed that they should be monumental in character and are supposed to represent the highest architectural art and intelligence of the community or country.

SLOW-BURNING AND FIREPROOF CONSTRUCTION.

BY DANKMAR ADLER, ARCHITECT.

(Concluded.)

IN the first part of this article I have tried to show what owners and occupants of buildings can do toward diminishing the risk of injury or destruction of their buildings by fires in adjacent premises, and how to minimize the possibilities of harm to the buildings themselves from the burning of the contained furnishings and merchandise. It is my purpose now to point out what the architect can do toward protecting the structural parts of these buildings against the dangers of fire without and within their walls.

Burnt clay as well as a few varieties of stone are the only building materials known to the architect which are incombustible and capable of offering effective resistance to the destructive agencies of fire for a long period, but they are so deficient in tensile and transverse strength that a building in which no others are used would necessarily have its pillars and piers so large and set so closely to one another as to prevent its successful commercial utilization under the existing conditions of occupation and use of buildings; and we have no other building materials at our disposal, within the limits of commercial adaptability, which cannot be injured or destroyed by a fire of sufficient intensity and duration.

We have, however, a choice between other structural materials capable of use for large spans between supports; of which timber, if attacked by the flames, will not only lose its power of resisting the stresses imposed upon it by the ordinary loading of the building, but will itself burn and thus add volume, intensity and duration to the flames, while iron and steel are themselves unflammable, although their load-carrying capacity may be impaired or even destroyed by fire. It needs no argument to prove that the latter are preferable to the former as structural materials for all buildings except such as are intended for ephemeral uses and short life.

If a substance, at once incombustible and slow to conduct heat, is interposed between any possible fire and all structural members of buildings which can be injuriously affected by heat, damage or destruction of buildings by fire will be averted to an extent directly proportional to the non-heat-conducting and fire-resisting properties of the inclosing material. This will be as true in the case of wood or other combustible building material as where only iron and steel are used.

Therefore "mill-construction" can be made really "slow-burning," and perhaps as "fireproof" as the ordinary system of "fireproof" construction, if the fireproofing material is applied as hereinafter described. But the impenetrability to fire, intended to be attained by the processes which I am about to set forth will be accompanied by a corresponding resistance to the passage of ordinary air currents; and the consequent absence of free circulation of air tends to induce dry rot, and thus introduces a menace to the life of the building even greater than that of fire; which is another cogent reason for excluding timber and confining ourselves to brick, fire-resisting stone, concrete, iron and steel in the selection of structural materials for all buildings of any considerable magnitude or importance.

Therefore, after having made a judicious selection of building materials, if the various structural members are to be capable of offering successful resistance to the attacks of fire, their fire-protective coverings must be incombustible, slow to conduct heat, slow to expand and contract when exposed to rapid changes of temperature, such as those due to the alternating action of fire and water, and they should be strong enough themselves and strongly enough put together as to maintain their integrity under the expansive action of heat and when exposed to the stresses due to the falling of burning objects against them or when subjected to the force of an impinging stream of water under high pressure; and if they cannot be made altogether self-supporting their fastenings to the structural parts which they are intended to protect must be themselves guarded against injury by fire.

The fireproofing materials which have come under my observation are: 1, Porous terra cotta; 2, hollow tiles of burnt clay; 3, slabs or hollow tiles of plaster made porous and cellular by combination with reeds; 4, plastering applied on metallic laths; and 5, a cellular or porous concrete.

As far as my observation goes, the behavior under fire of the first is admirable. I have seen it after an exposure of nearly an

hour to very hot fire, and was unable to note any signs of deterioration of the protective covering, nor the effects of any material increase of temperature in the inclosed pillars and beams. On the other hand, the hollow tiles when subjected to the action of fire in the Athletic Clubhouse and in the Schiller building did not fare nearly as well. It is true that the last two fires were of longer duration, but I am sure that they were not of greater intensity, and too great a difference to be accounted for by variation in time of exposure alone was observed between the unscathed tiles and slabs of porous terra cotta noted after the Auditorium and Ryerson building fires, and the cracked and slivered and in some cases utterly destroyed hollow tiles found after the fires in the Athletic Clubhouse and the Schiller building.

I have also had opportunity to observe the effect of fire upon cellular plaster boards. But as these exposures were of short duration and to fires of moderate intensity, I do not feel myself justified in using my own observation as the basis of any positive statements with reference to this material. Others who have observed its behavior under more severe tests report that they have found it satisfactory. I have doubts myself as to whether it will maintain its integrity under the action of a powerful stream of water.

Plastering on metallic laths and porous concrete have been used by others and also by me, but I have had no personal opportunity for noting how they are affected by the action of fire and water. Of the former used alone I have no high opinion, but I consider it a valuable adjunct to other fireproofing materials. Concrete so mixed and applied as to be sufficiently porous seems to me a most efficient and permanent fireproofing material, and if applied in thick enough layers, and perhaps strengthened by metal laths, quite as capable of resisting the effects of both water and fire, as even porous terra cotta.

Before proceeding with the consideration of the details of the protective covering for pillars, girders and beams, it may be well to state that no fault can be found with any of the various systems of hollow tile or concrete floor arch construction. They have all proved themselves capable of doing their work under the most trying conditions, and the adoption of one or the other is only a matter of structural or financial expediency, to be decided in accordance with the conditions presenting themselves in each case. The concrete arches and beams are generally much lighter than the hollow tile arches, but their use will not permit quite as rapid progress of general construction, while in winter they cannot be used at all except in an inclosed and artificially warmed building. The Spanish tile arch is always good, but it is to be regretted that in working out the details of its application, Mr. Guastavino has made no provision for protecting the bottom flanges of the supporting steel beams. Where flat unbroken ceilings are required, the Guastavino arch and the various concrete floor arches require a suspended ceiling construction, which adds somewhat to their expense. Still, if the plastered ceiling applied to the under side of flat hollow tile arches is to be perfect, there should be in this case also a covering of metallic lath fastened and stretched under the hollow arch tiles at a distance of about one-fourth or three-eighths of an inch from the same, and the plastering should be applied to these metallic laths. This process will not only make it easier to secure a smooth surface for the ceiling, but by its use the cracks which ordinarily follow the joint lines of the arches will be prevented. In case of fire this covering will tend toward protecting the bottom webs of the tile arches from injury by excessive heat, which protection is particularly valuable, if not essential, for all hollow arch blocks made of "hard" tile.

But no matter how perfect the system of floor construction between the beams, it will prevent neither destruction nor serious injury to the building if the pillars, beams and girders which form its supports are insufficiently protected, and all fireproofing materials and processes must be judged by the greater or less extent to which they fulfill this all important and vital condition.

In reviewing the various fire-protective covering materials with which I am acquainted, it seems to me, that if porous terra cotta could be applied to pillars and beams in continuous jointless masses, I should consider it unquestionably the best and an almost ideal fireproofing material. But it is vulnerable at its joints, a weakness which it shares with hollow tiles, porous plaster and all other coverings manufactured and put up in sections, blocks or slabs. If capacity for long resistance to the effects of fire and water is to be developed from any of these, it can only be done

by making the coverings of pillars and beams in at least two thicknesses with joints so arranged that each joint of one layer shall be covered by the body of another layer. Metallic lath should then be applied at a distance of about three-eighths of an inch from the outer layer, and this should be plastered with a heavy coat of cement mortar.

In the case of pillars there are no practical difficulties to interfere with carrying out these suggestions, except only a slight increase in the space to be occupied. The treatment of the bottom flanges of girders and beams is not so easily accomplished, but it can be done at the sacrifice of an inch or two of story height where unbroken ceilings are required, and there would be an increase of bulk in the case of all girders and beams projecting below the ceilings.

Neither the increase in bulk of pillars and girders nor the increased expense should stand in the way of the general adoption of these suggestions. Applied in this manner, the fire-protective covering of pillars, girders and beams will resist the action of fire and water for hours. When compared with the enormous sums invested in "fireproof" buildings and their contents, the additional outlay required to make them really and practically fire-resisting, the additional investment of money and space involved seems insignificant, and not at all too high a price to pay for almost absolute protection against impairment of structural integrity from the effects of fire and water.

THE MODERN OFFICE BUILDING.*

BY BARR FERREE.

PART I.

THE largest and most costly structures now being built are the modern office buildings of America.† Some few monumental undertakings of foreign governments may, indeed, exceed them in price, as many a smaller building exceeds them in monumental effect; but in no other group of structures are the expenditures so large, the responsibility of architects so great, or the opportunity of profit to the designer so handsome. For the architect, the labor involved in the erection of an office building is very large. He requires a numerous corps of assistants, whose whole time for many weeks will be needed to prepare the working drawings; he will require an engineer to design the foundations and the frame of steel on which the building is to be carried, who, in his turn, will need his own assistants; he will require careful superintendents, and every step of the work will call for constant watching; he must, moreover, be familiar with many sciences and with much detail that a few years ago had no part in an architect's knowledge. His building must be heated and lighted; it must be supplied with elevators and with elaborate electric and sanitary systems. Every new device must be watched and tested, in order that the latest office building may, with the utmost literalness, be "modern."

But the responsibility of the architect scarcely equals that of the investor who puts his money into these great enterprises. I am speaking of office buildings of the largest size, for many smaller ones are erected, as convenient and as well equipped as the larger, perhaps, but which are not typical examples of this class of buildings. The modern office building is an exceedingly costly structure. The land on which it is erected is, as likely as not, in the center of the city's business district, where rents are high and land invaluable. The method of construction is costly; for while the steel skeleton system of construction, which is now almost universally employed in these buildings, considerably increases the interior areas, owing to the thin walls that can be built in this way, the actual expenditure, save in buildings of great height, is more than under the old system of solid walls, carrying the floor and roof loads in addition to their own weight.

An interesting case in point is the American Surety building, in New York, which occupies a site about eighty-five feet square, that cost in the neighborhood of \$1,500,000, or at the rate of about \$8,000,000 per acre. The building itself cost at least \$1,500,000 more, so that the total investment considerably exceeds \$2,000,000. It has twenty-one stories, and is 300 feet high. Under the old system of solid walls, this structure would not have been a profitable investment, since the thickness of its walls at the ground floor would have been nearly seven feet. As actually built, the thickness of the walls is three feet at the ground, and the internal area 5,000 square feet of floor space on a lot of 7,250 square feet.

It is obvious that buildings so costly as this can be no ordinary structures. They represent a lavish expenditure, but a lavishness that is expended on business principles and in a business way. The office building is a commercial venture, undertaken, not with the object of beautifying the city, or of satisfying the æsthetic ideas of its owners, but as a commercial investment, in which the rents shall return a net profit that represents the income from the money it has cost. The building may be ornamental; that is to say, its ornamental aspect may be a necessary part of the scheme;

but if so, it is not an æsthetic effect that is sought, but an attractive exterior and a well-planned interior, that will bring tenants and excite favorable comment from the passer-by. The artist would, doubtless, contend that such commercial conditions would mean the extinction of art in buildings of this description, and he would be right, in so far as many commercial buildings are totally without artistic interest, though there has been no limit to the expenditure. But though the modern office building is as yet scarcely more than in its infancy, the commercial value of a really artistic building has already been recognized by investors. And so, though the public at large—and the architects, too—scarcely understand the possibility of artistic expression in these buildings, of any two, one of good design and one of bad, the former will prove the most attractive to the better class of tenants, and, therefore, the more remunerative.

But while this is true, and the artistic side of the office building is receiving an attention not heretofore given to it, it is a purely commercial enterprise, undertaken for profit, without, save in the way that has just been pointed out, any artistic significance. And so, being a commercial building, and this being a commercial age, it is not inappropriate that our cities should be dominated by their commercial edifices, beside which the church towers are insignificant; for the office building is as typical of the life of our age as the sumptuous baths and great palaces were typical of the life of imperial Rome, or the cathedrals of the religious fervor of the Middle Ages. They have, therefore, an economic significance which no other structures of our time possess, which makes them modern in a real sense of the word.

The modern office building, as it is considered in this paper, is a purely American product. It has arisen from the concentration of the business centers of our American cities upon areas of relatively small dimensions. Its greatest development has been in Chicago, where the business center is a very small part of the city's area, and is confined within the limits bounded by Lake Michigan, the Chicago river and the railroads centering in the city. In New York, the business area is spread over a large extent of ground, but the situation of the city on a narrow island, and the concentration of business upon the lowest extremity of this strip of land, has hastened the development of the office building in it as well as in the metropolis of the West, and for very similar reasons.

Obviously, when the pressure of population has used up the ground area, the need for accommodation becomes so great that vertical expansion is forced upon real estate owners, whether they will or no. In foreign lands such vertical expansion is hindered by vested rights, or privileges of light and air, which hem in building operations in England in a way quite unknown in America; or by rigid building laws, which forbid structures of extraordinary height, or any above the average height upon streets of certain width. Building has proceeded upon freer lines in American cities, where it has seemed more suited to their development to induce a free erection of buildings than to hinder municipal growth by introducing elements of restriction. But already a reaction has set in, and many cities, Chicago among the number, have made regulations limiting the heights of buildings, and forbidding more than a certain height upon lots of a given size, or upon streets of a certain width.

How far these restrictions may be needed is problematical. It has been urged that the continued erection of high buildings will make our streets veritable canyons between great walls of offices, which will not only darken them, but render the lower offices unprofitable for want of light. That a very narrow street between very high buildings is a thing to be avoided is unquestionably true; but the objections to these buildings, both on this and other grounds, have been greatly exaggerated. That they are sources of disease in preventing the free circulation of the air is as yet only a matter of opinion, while it is a fact of common observation that the wind never blows so swiftly and so strongly as around high buildings; and it is probably true that their continued multiplication will lessen the renting value of the lower floors. But commercial buildings are commercial enterprises, and the moment they become sources of danger, or any considerable part of them unrentable, at that time will come that natural check to their erection which must follow from the conditions under which they are erected.

The modern office building houses an immense population. Two or three thousand people in a single one is no exaggeration. Were they built without regard to the utmost advance of sanitary and constructive science, there might be just ground for alarm at their increase. But, as a matter of fact, no buildings of our time are erected with greater care, or with a more thoughtful regard for the convenience and safety of the people who pass their working days within them. Every possible improvement is pressed into service, and the latest building, if it has been well done, is a distinct advance on its predecessor. There is still much to be accomplished; the problem of ventilation is not yet solved; perhaps the manner of heating requires further development; but these imperfections are as characteristic of lesser buildings as of the greater; they are a part of the faults of modern architecture as a whole, and are only considered in relation to the office building because of its size and importance.

It is no small achievement to erect a single structure that will contain more people than the population of a good-sized town. Countless contrivances for the safety and convenience of human life must be employed in such buildings before they can properly answer to the needs of modern commercial life. They must be well lighted, conveniently planned, amply equipped with elevators,

* A lecture delivered before the Franklin Institute, November 15, 1895, and printed in the Journal of the Institute.

† Full credit for authorities and explanatory notes, printed in the journal, are omitted from this reprint.—EDITOR.

and with the latest devices in heating, lighting, plumbing and electricity. For their proper working a vast mechanical plant is required, including boilers and steam engines, electric light apparatus, ventilating apparatus, a system of sewage disposal, and often, if the soil is full of water, an elaborate system of pumps whereby the foundations and the cellars may be kept clean and wholesome. For the convenience of the tenants an army of attendants, janitors, elevator boys, firemen, engineers, electric experts and the like, is needed. There must be no break in the intricate system which keeps these buildings alive, night and day, and often without cessation the year round. Many of the factors needed to render them serviceable are invisible to the public, as well as to those who daily use them, but they form an essential part of the building, and help to make them among the most remarkable structures built by human hands, as they are among the most complex.

And not only is there an infinity of necessary devices, but the complete and modern office building includes a host of conveniences that are not, strictly speaking, a part of its architecture. It will contain, in addition to its offices, many comforts and luxuries that make it, in a sense, independent of every other building. It will have boot-blackening stands, a barber shop, baths, restaurants, cafés, cigar stands, news stands, minor shops and booths, and perhaps a club, whose membership will be largely composed of the tenants. When to these are added the very varied businesses that find shelter within it, it is apparent how notable these buildings are in their contents as well as in their size and cost.

Two great factors render the modern office building capable of erection—the elevator and the skeleton system of construction. The utility of the latter in effecting an economy of renting area has already been alluded to, and the details of the system will presently be considered at length. The elevator is, of course, the chief economic device that renders the lofty buildings accessible to the public, as without it the upper floors would be inaccessible. The elevator has made the office building a commercial success, and, conversely, the demand for swift, safe and economical service has had its influence upon the development of that device, and enormously increased the elevator industry. Were any one feature to be singled out as having contributed the most to the development of the office building, that would, without question, be the elevator.

For we can erect office buildings without steel construction, as will be seen in the sequel, though not so economically. But, in a sense, we would build better; for, where five or more feet of the ground floor would be needed for a self-sustaining and supporting wall of masonry construction, there would be an end to the present custom of erecting office buildings upon narrow sites. That the practice of erecting narrow office buildings is much overdone, especially in New York, cannot be questioned, and, in time, that city will certainly show block after block of office buildings whose narrow fronts can never, from their limitations of width, have the artistic value of broad and spacious façades. Nor is the misfortune simply one of æsthetic effect. It costs more to build ten office buildings than one covering the same area, and the total operating expenses of such a series would be considerably in excess of the operating expenses of a single building. Good economy would discourage the increase of small office buildings and offer every inducement to the building of large ones. A case in point is the Monadnock block in Chicago, in which four buildings, owned by different parties, though built in sections of two each, at different times, form one continuous interior under the same management, and practically one vast business building. A similar union of owners in building enterprises would, unquestionably, produce most satisfactory returns on the investment, which could not but be greater than the return from a number of single buildings.

In giving architectural expression to so complicated a structure as the modern office building, the architect needs to keep in view all these conditions and limitations. In a sense, he is not a free agent, in so far as he is unable to arrange his façades in accordance with the dictates of his own taste. He can waste no room in massing his front, in making a recess here, or a projection there, no matter what the artistic effect might be of doing so. On one hand stands the owner, protesting he must have every possible inch of the area for renting purposes; on the other is the municipal building law, which forbids extension beyond the building line. All the architect can do is to keep strictly upon that line, and this, as we shall see, the skeleton system enables him to do economically and well.

Not the least of the economical advantages of the skeleton system is the speed with which it enables buildings to be erected. An office building of the largest size can now be built, with steel, in a space of time that is positively astonishing. Not only is the system a rapid one, but the lower portions of a building can be practically completed, and tenants in possession, before the upper parts are finished. As in each story, in the pure veneer type, the walls are carried on the girders at that point, it is possible to fill in any story without reference to what is above or below, and it has sometimes happened that the first floors of a high building were the last to be given their completed form. The question of speed in erection is a most important consideration in these costly structures, and this system seems to more than satisfy any requirements that may be insisted on in this particular.

(To be continued.)

A YOUNG woman married a man who told her he was an "architect's assistant." She became disconsolate upon discovering next day that he assisted the architect by carrying bricks up a ladder in a hod.

ARCHITECTURE OF NORWAY AND SWEDEN.*

BY GEORGE W. MAHER, ARCHITECT.

THE development of architecture in the buildings of Norway and Sweden, judging from what remains to be seen, did not reach a very high standard of excellence, nor in any way did it compare with the buildings executed at corresponding periods in the other countries of Europe; we must therefore go prepared to admire the modern, rather than the mediæval, making just criticisms and endeavoring to learn the reason why a people, so interesting and intelligent as they were, succeeded so little in the development of any one great branch of architecture. I therefore approach the subject with a feeling of hesitancy, because of the proneness of architects to reach at once for the origin and centers of all that is rich and beautiful in art, such as the French Gothic at Rouen, the Italian Renaissance at Florence or the classic at Rome and Athens, that when we are obliged to describe less interesting centers we find our enthusiasm lacking. But Norway has had its influence in no uncertain way on the architectural history of other countries, which I shall endeavor to emphasize. But before thus proceeding we must first consider the Scandinavian peninsula itself—its location, its wealth, etc.; for these factors contribute much toward the development of any national art. If a country, like Norway, is isolated and to an extent barren and unproductive, its people are liable to profit little by intercourse with other countries. It offers no inducement for conquest by an intelligent foe. Again, the fine arts do not thrive on poverty, though character may and does grow under adverse circumstances. The Norsemen were no exception to this rule, and became strong and bold under the vigor of harsh environments and lunched their ships for conquest in richer and more fertile lands where wealth was to be found. It becomes plain, then, that one of the causes for the dearth of good mediæval architecture in Norway and Sweden was their isolation and their poverty. The development of art in any country results from a source of inspiration diffused generally by intermingling of races, usually in the past by conquest. Wherever the Romans were victorious they carried with them their more advanced ideas of civilization, these new methods acting as the necessary leaven to prompt the conquered to higher ideals. Thus we find that, starting from Rome, all countries that were brought directly under Roman rule profited in that their first importance as civilized communities dates from this conquest. Particularly is this noted in the development of building, to the extent that countries like Gaul and England were indebted to Rome for their first real impulse toward art and architecture. This inspiration is so marked that the farther distant from Rome any country was located, the weaker its art strength. Note as a comparison, France, Germany, Russia, Norway and Sweden. To this day Rome influences modern art. The Ecole des Beaux Arts at Paris, the first art school of its kind in the world, gives the Prix des Rome to the student who passes highest in the final test examination, which entitles him to a four-year sojourn in Rome, with all his expenses paid. Ancient Rome, as we know, incorporated Athenian art, which represented the highest ideals known to man.

Now Norway and Sweden were not even conquered by Cæsar; he was either afraid of the bold Norsemen or considered their country too barren for a hazardous expedition, and we therefore find in our travels that the original buildings erected by the Norsemen were devoid of real broad architectural treatment, for the reason that they were in ignorance of how to combine the practical with the beautiful, having no instructors or examples among them. The exception to this may be noted, however, where they borrowed ideas from the countries they visited, or rather looted, bringing back relics which in turn oftentimes were incorporated in their rude log habitations, such as I will explain later. This piecemeal adaptation, however, did not tend to broaden their art; it simply emphasized the longing a people of their intelligence would naturally have for a better knowledge of the beautiful, which was denied them from the facts I have given, and that they were never conquered by a superior people. In order to appreciate, then, these sturdy Norsemen in an art sense, we must of necessity go with them to the countries they conquered, and you will pardon me if I describe their influence in these countries.

In England, for illustration, the Normans, direct descendants from the Norsemen, brought the Norman style of architecture into existence. This Norman style, of course, had its origin from Italy or the Romans, but was developed by the Normans and bears their name. It is a rather rude adaptation of the column and the arch, but very strong and simple, and particularly full of character; so also in Normandy, in the north of France, the buildings of the latest French style keep a certain purity and sobriety which they do not keep elsewhere. At Rouen, the chief city of Normandy, we find a very high development of French Gothic, which Ruskin holds as the highest type, and he never tires of lauding its subtle merits. Rouen Cathedral particularly attracted his attention, and it is a wonderfully beautiful cathedral of the most exquisite workmanship, an example for all time. We must, therefore, give the Norseman credit for the part he played toward erecting these splendid examples of mediæval work. To be sure, it was the intermingling of Norseman with Gaul or of Norseman with English which brought such grand results into existence; but the fact remains that the character of the Norseman is always evident in the work, consequently proving that he had an active part in it. So we must excuse the Norseman of old for not developing in his own land

* Paper read before the Kenilworth (Illinois) Study Club.

instincts which would have revealed in stone his love of character and quaint sobriety. But we must pass from the old to the new in building, to appreciate what they are capable of doing in modern times when principles of art are universal.

We find the Swedes the most progressive today of the two peoples; they are spoken of as quite French in their taste and manners; indeed, they copy largely from the French, their court language being French, consequently this has its influence on the nobility and their customs.

Stockholm represents the best in their architecture. Beautifully situated, the so-called Venice of the North, with its seven islands connected by massive stone bridges; the great royal palace on the central island, with its broad classic outline; the spires and domes of church architecture, all in strong contrast with the primeval appearance of surrounding forests—I am told an impression is formed on the traveler that is not soon forgotten, and a view of Stockholm is remembered as one of the finest sights in Europe.

We find that they are building large and beautiful houses of the most approved styles in the modern French and Italian Renaissance schools; that these houses have every convenience patent to their needs, with the grand salon, art galleries, immense dining hall, or the *salle-à-manger*, etc., all very complete, grand and commodious, pure in style, borrowed, to be sure, yet which would out-rank most of the residences built in Chicago, and be on a par, perhaps, with some of the modern palaces built recently in Newport and New York. Chicago can boast of much, but in the realm of high art, such as is going on abroad, she is woefully in the background. I venture to say that none present tonight will ever see built in Chicago or environments a building that would equal for simple architectural grandeur the royal palace of Stockholm. It is designed in the Italian Renaissance style by a French architect, was commenced in 1697, and after only one interruption, finished in 1760. The original designs were carried out in their entirety, no money being spared to perfect this immense building, according to the architect's original conception. Of course, we know that such buildings are not encouraged by a republican form of government. As a rule, our people are not educated up to an appreciation of the use of such a building. They cannot see its influence as an example. They must needs count the dollars and the interest thereof and not bother about costly architectural monuments.

As I have said, the streets of Stockholm are lined with modern buildings, mainly on the French Renaissance style; and the old part, a mixture of German Gothic, plastered and timbered work. The Grand Hotel, for illustration, is similar somewhat to the Tremont House, Chicago, excepting that it is a larger building. This hotel is considered by many to be one of the finest in Europe. Churches and towers are conspicuous. The Church of the Island of the Knights is an interesting edifice, excepting the modern innovation of an iron spire. This should have been of stone.

The criticism we are obliged to make is their lack of a national school of architecture. We see this great race of people borrowing from the Latin, Slavs and Saxons the form and construction which are to be seen in their private and public edifices. For this reason we are disappointed in not finding a gradual development of artistic facts; a relation between the various buildings or that regular graduation which they display everywhere else. The transitions are sudden, or rather there is no transition between the various periods and the different styles. They received the Gothic in its completeness and they applied it without effort or study, without passing through a renaissance; they advanced from Gothic to Rococo. I believe that when France built Versailles, they were prompted to build the royal palace.

They have not originated anything, but have always copied; we are forced to acknowledge, however, that they well know how to choose their models, and that today they are building one of the finest cities in Northern Europe.

The Norwegians are of a different disposition from the Swedes. Not as light-hearted, but rather blunt, stolid and honest. This disposition is sure to affect their art. While leaning to the practical, yet they would be apt to continue in certain lines and hesitate to incorporate new ideas from other countries. However, we find that in the larger cities, Christiania, for instance, that their buildings are taken from good models. The Museum of Art is designed in the Italian Renaissance. The classic style seems to predominate in their new work. No doubt, rare old timbered houses would be plentiful in Christiania if the mediæval portion Oslo, of which Christiania is the successor, had not been destroyed by fire once by its own inhabitants to prevent falling into the hands of the Swedish besiegers in 1547, and again by fire in 1624. We lose much of the best work of these people by this destructive element. Their houses being of wood mainly, were prey to the enemy or to accidents. This timbered work, akin to all Europe during the Dark Ages, is quite interesting. The characteristics are high gables, oftentimes projecting far beyond the wall below. The walls are plastered between timber work, somewhat like the German building at the World's Fair. The windows are rather small, with leaded glass roundels. The roof is generally of tile, the whole effect being fantastic, almost weird when looking at a street in perspective.

The effect thus produced always attracts the attention of artists. The hard straight lines of classic architecture does not appeal to the spontaneity of paint and brush, besides there is too much detail to suggest in classic work. On the contrary, this timber work offers rare suggestions of light and shade; the fanciful tracery of the Gothic, the grotesque carvings, the boldness of gable and tower all contribute to a composition and a picture.

This style of work yet exists, to an extent, in Norway and Sweden, and we will all enjoy it, even though it is crude and half barbaric. In this connection I may mention some of the old wood country houses.

They are built in log cabin style, but generally with a pretentious roof and gable; also efforts at dormer windows. The corners of these buildings are sometimes ornamented with huge round carved posts continuing from ground to eaves. The doorways are carved in wood. All of this attempt at ornament can easily be accounted for. The corner ornaments, as an instance, show a similarity to baluster work taken from the Italian buildings, but much enlarged. The doorway carving often bears a resemblance to Byzantine work, showing that from examples seen elsewhere in their ravages they attempted certain ornate effects in their rude work.

Trondhjem Cathedral could not be passed over in an article of this nature, as it is the grandest church in Scandinavia. To be sure, it is not indigenous to the soil, so to speak, but it represents a noble work, and the Norwegians must receive just credit for the part they took in its construction. I am far from being a Romanist, but would not consider a tribute to this old cathedral complete if I did not mention the fact that the Romanists have ever been the promoters of noble art, and that, whatever can be said against them, in the realm of the fine arts they far excel the Protestants. Indeed, the Protestants have no art of their own, and many of the grandest specimens of church work, so far, fall below their appreciation of art, that in their religious fanaticism, which was worse than vandalism, they aimed to destroy in a day that which had taken centuries to erect. This occurred partially with Trondhjem during the Reformation. The style of this cathedral is part Romanesque and part Gothic, and without a doubt was taken or copied from English precedent. It was started, I believe, in the tenth century, and is not yet entirely complete, having gone through the vicissitudes common to work of this high character. The columns supporting the clear story are capped with beautiful foliated work showing an exquisite feeling of imagination entirely out of harmony with the rigidity of this far north country. The grand nave, the chapter house, the choir with its octagonal apse aided by rich materials, all combine to make this most interesting example of grand old cathedral work the first in the north.

It has been mentioned that in the eleventh and twelfth centuries this cathedral was the burial place of the kings, and that by the constitution of Norway of 1814 the kings must be crowned here.

I think that no more beautiful tribute to the love of past art achievement could be paid by any people than to select this far north cathedral as a place in which to crown and bury their illustrious dead. To me it is almost pathetic, since, after all, even this sacred tribute is paid to a building which was not of them—a stranger in a strange land.

THE NEW LIEN LAW OF ILLINOIS.

TWO communications have been received regarding the new lien law, and the strong similarity in the deductions presented seems to point to a general consensus of opinion regarding its operation, when tested by contractors and observed by architects in the regular routine of their practice.

J. R. WILLET, ARCHITECT.

Architects and contractors are only now beginning to realize that the last legislature of the state of Illinois passed a lien law, and a law far more exacting than any such law previously passed.

Unless the owner wishes to become the surety of the contractor, it makes it the duty of the owner to have written statement, verified by affidavit, giving the names and addresses of all sub-contractors who may have furnished labor or materials, or whom he may intend to have do so; or perhaps, for the law is susceptible of such interpretation, the list of all the sub-contractors out of which he may pick the sub-contractors he intends to employ.

If the contractor fails to comply with the above provisions of the law, it becomes the owner's duty to notify him to do so.

When the contractor has furnished a list of the sub-contractors, it then becomes the duty of the sub-contractor to furnish a list of his sub-contractors, or in other words it is a sub-sub-contractor; and furthermore if these sub-sub-contractors fail to send in notice to the owner of any sub-sub-sub-contractor they may have, then the owner enjoys the privilege, indeed it is made his duty, to call upon them; and this thing has to be continued so that you have to call upon sub-sub-sub-sub-contractors—in fact, there does not appear to be any end to the line. It can best be described by the following lines:

"Big fleas have little fleas to bite them,
And these have other fleas, and so ad infinitum."

There are various provisions; among others, people have five and ten days, and more, to receive notice and to make replies, so that the matter may be strung out an indefinite time. There are also provisions for the payment of the workmen; these are not unreasonable; they give two weeks' time for all such claims to come in. It further states that if the owner has reason to believe that the sworn statement of a contractor does not embrace all the names of his sub-contractors, it is his business to investigate and find out what the facts are, and become responsible therefor. It is true that the law allows the owner to escape all this by taking a bond for the due and proper performance of the work, which is

only another way of saying that he is allowed to pay his money out, and then if there are any claims come up hereafter, he has the inestimable privilege of going to law and thus trying to get his money back again.

When it is considered that on many works, some of the sub-contractors at least, have their offices and factories at a distance, and not infrequently in other states, the trouble it is to reach them and to get their answers (if they choose to give them), and the inevitable delays that must occur in any such proceedings, it may be apparent that the contractor cannot expect to get an estimate until considerable time has elapsed after he has finished the work which entitles him to it. Furthermore, the law says that architects and agents of the owner will be held responsible both by the owner and the contractor for any notices that they may receive, and shall fail to transmit the same to the owner, etc.

The law apparently was got up for the purpose of allowing some material men to furnish goods to the most irresponsible parties, and hold the owners of buildings responsible therefor; in other words, it was got up to allow material men to make other persons responsible for their (the material men's) actions. It will surely fail. The law is unworkable. A contractor to make a true affidavit in most cases would have to be entirely out of debt, which is not the case once in a thousand times among commercial men. Every practical architect knows that most of the affidavits that came in under the old law (which was comparatively mild and inoffensive compared with the present one) were not wholly true; it is probable that under the present law, the affidavits that are not wholly true—that is, are more or less tainted with perjury—will be far greater than before.

With a first-class architect it is common for the owner to turn over all his building business to him, and many of them do not wish to hear any more about it than they are compelled to. Every architect of standing knows that sometimes the owner goes abroad leaving their architects to build buildings costing thousand of dollars, with orders to their agents or bankers to pay the architect's estimates. However pleasing this personal confidence may be to the architect, it puts a great responsibility on him; he practically has to become a business man, and to some extent an attorney for the owner; it behooves him that this trust and confidence is well deserved.

Under the present lien law, in order to guard the owner against attempts at fraud, it appears essential that the architect should pursue a course somewhat as follows:

To deal with contractors who have no sub-contractors. (This in large jobs is practically impossible; it is difficult even with small ones.)

To notify the contractor to send in a list of his sub-contractors as soon as possible; and when this list of sub-contractors is received, to notify said sub-contractors to send in their list of sub-sub-contractors; then having done this, as far as he can find out the names and addresses of sub-contractors, to send a written protest to each of them against supplying any goods whatsoever on account of the owner. The law appears to give them this right.

A large material man, speaking to the writer, said that in his business a contractor who would not be trusted for a suit of clothes, could go out and buy, and get credit for material to the amount of a thousand dollars. This is the result of such laws as this, which simply attempt to make water run up hill, and is, with the exception of the labor clause, an outrage, got up for the purpose of making the careful and prudent responsible for the actions of those who are the reverse. A wag remarks that the law appears to be got up to make the owner responsible for the actions of everybody that comes in sight of his building.

The law, too, will have the effect of promoting litigation; time appears to be considered of no value. There are a great number of notices to serve, and times are given for reception and reply; copies have to be kept of each notice, and everything has to be verified by affidavit, and then if it don't suit, why you can go to law. This will be a delightful prospect for the contractors. If there is one thing more than another that a business man learns by painful experience, it is to avoid lawsuits, and all good lawyers will advise you to avoid a lawsuit if it is at all possible. The loser of a suit is but little worse off than the winner of it, and in any case the delay that occurs will injure, and sometimes ruin, the winner.

The effect of the law must add greatly to delay and render uncertain the times when the contractor may be paid. Furthermore, it will tend to drive the small contractors out of business altogether, or else to put them wholly at the mercy of the material men; indeed, it will put any contractor, large or small, at the mercy of the material men.

It must now be endured until the next legislature meets, and then the best thing that can be done is to repeal it.

THOMAS H. MULLAY, ARCHITECT.

The new lien law is a good one for contractor, sub-contractor, material men and sub-sub-contractors, etc., no matter whether the owner takes precautions and complies with the law or not. If the amount of money in dispute was large enough to warrant the owner going to law, or, rather, carrying it up beyond the justice of the peace's court, it might be different; but at present the contractors are too sensible to allow such a thing to occur, wisely judging the temper and ability of the owner to fight it out in the higher courts. The cases I mention can be verified by more minute facts, names, places and figures.

A carpenter contractor agrees to do some work for an owner for \$1,800. His contract is made and signed to be done at a certain

time under liquidated damages and as per plans and specifications, etc., in the usual form. He gives the architect a list of his sub-contractors and material bids and figures, which shows that a reasonable amount is left for labor and profit to himself. He goes ahead with his work. Men who say they have had work done by him speak fairly of him. He comes in after the first and second certificates and gets his eighty-five per cent, the owner taking the precaution to find out that his subs and material men were not paid, and made out the checks payable to them straight, and the contractor agreeing to have them paid to their account, the owner noticing that there was no money left over for the contractor, who becomes uninterested in the work and delays two or three months, and causes expense and worry and delay to other men on the building who keep continually kicking at the carpenter. He finally, under provisions in the contract, hires a carpenter to complete the work at the first man's expense. Then the contractor leaves him an affidavit that there is more coming to the material men and subs than the balance due, say \$150 to \$200. Under the new law he has to pay these men. They claim extras not ordered in the original bill. The owner has nothing coming to him now for all this delay and trouble and for hiring a man to finish the work, making his real loss for rent and interest on money much greater. All the material men would not swear to their accounts, and investigation reveals the fact that some of the subs had from \$40 to \$60 in each check they received from the owner for the contractor as his "commission." When you accuse them of this they deny it and will make out an itemized bill, marking up items so as to fill up the total. Now, say three or four men would do this on the building, and an owner who expected to have his house cost him only \$5,000 finds that he has to pay \$1,200 to \$1,500 more for it and hasn't the money, and as he had already forwarded some, he must make a second mortgage. Now, just see what a "merry time" he would have suing these different contractors and following them up from court to court and paying attorney's fees, etc.

A plumber takes a contract for a certain sum and has his work very near completion when he asks for a certificate. The architect writes on the back of it, informing the owner to pay certain amounts from this sum to the material men and balance to plumber. He complains to owner about such outrageous treatment at the hands of the architect; that his credit is good, and he always paid his bills, etc., and so the owner gives him a check for the whole amount. A week or so afterward the architect finds out over the telephone that his bills are unpaid and that the material men will not inform him of the amount due them for that particular building, as they have a standing account with the plumber, and don't know just what goods were delivered there, and they then write the architect a note informing him politely that he is acting impertinently in inquiring into his affairs. Later on these same men come in and expect to hold the building for their goods. Why should not the owner pay for them when they went into his building? The case goes to the attorneys, and the justice decides that they were just a few days too late with their notice. But what if they were not? Under this new law he would have to pay.

All old scaffolding used on the building, blocks and tackle, planks, etc., although they were used and paid for on other jobs, must be paid for again on this new work and under this new law. The men who make the sash, doors, etc., in the various mills (workmen), totally unknown to architect or owner, under this new law must be paid. A man who bought a house had paid over to the seller all but a small balance of \$310 or so. The abstract showed all claims against the building paid, no record of any other on the books. Private investigation revealed the fact that a contractor had served notice on the owner and had four months in which to begin suit. Fortunately his claim was for only \$40. But suppose it was \$500 or \$1,500, there is no remedy provided.

A man signed a contract June 15, 1895. The new law goes into effect June 26, 1895. All men send in bills and force their claims under the new and not under the old law under which they signed and began work. The architect could not demand a statement in the first ten days. This little fact caught one owner for \$1,700.

Another contractor gave a bond. The architect issued certificates and complied in every respect with the new law. The bills of the various subs and material men came up to more than the contract price. The architect is morally sure that the builder got his money out of it, and the owner finds that a bond is like a white elephant on his hands. He can be kept from two to three years in court, and the fees, worry, trouble and lost time in suing on that bond would be worth the price of the house. Other contractors and a comparison with other houses shows that the contract price was fair.

A knowledge of this condition of affairs discourages men from building. When they start out there is no telling where you are going to end. The majority of professional men will admit that the contractor should have a lien but no others under him. These builders act as if they were God's chosen people and have laws made for their special benefit. They openly say they paid to get them passed and now it will cost more to get them repealed. Our legislators catch 'em coming and going.

If the material men who sell to every "skate" contractor are afraid of their money, why do they not go to the owner beforehand and get him to guarantee their money? They are afraid of offending this same "skate," and it is unprofessional to do such a thing.

I do wish some lawyer would knock out such class legislation, making the contractor virtually the agent of the owner and starting a class of men who put not one dollar of their own money but the owner's capital into their business.

DIRECTORS' MEETING, A. I. A.

THE first meeting of the Directors of the American Institute of Architects was held at the headquarters of the Institute, 156 Fifth avenue, New York, on Friday, January 10, at 10 A.M., President George B. Post in the chair.

It having been previously arranged that the meeting should be adjourned to the time of the opening of the Architectural League Exhibition, and that business of general interest should not be considered at this meeting, the records of the last meeting, which which was held in St. Louis, were not read, and the president announced that he would appoint the members of the several committees, and named them as follows:

Executive Committee.—George B. Post, New York, chairman; Alfred Stone, Providence; S. A. Treat, Chicago; E. H. Kendall, New York; W. S. Fames, St. Louis; Robert D. Andrews, Boston.

Committee on Foreign Correspondence.—W. L. B. Jenney, Chicago, chairman; R. S. Peabody, Boston; Henry Van Brunt, Kansas City; C. F. McKim, New York; Thomas Hastings, New York.

Committee on Education.—Heury Van Brunt, Kansas City, chairman; William R. Ware, New York; T. P. Chandler, Philadelphia; N. C. Ricker, Urbana, Illinois; A. W. Longfellow, Boston.

Committee on Publication and Library.—Frank Miles Day, Philadelphia, chairman; W. L. B. Jenney, Chicago; Cass Gilbert, St. Paul; T. C. Link, St. Louis; W. R. Briggs, Bridgeport, Connecticut.

Committee on Conservation of Public Buildings.—R. M. Upjohn, chairman; the presidents of the several Chapters.

Committee on Building Laws.—T. M. Clark, Boston, chairman; N. Le Brun, New York; Alfred Stone, Providence.

It was voted that when the Board adjourns, it shall adjourn to meet in New York on February 14, at 10 A.M.

The Board then proceeded to open the letter ballots for the amendments to the Constitution and for the election of Fellows to the Institute, and it was found that the following men were elected: Albert W. Hayward, Cincinnati, Ohio; Andrew G. Thomson, New York, N. Y.; Charles C. Taylor, Cincinnati, Ohio; Ennis R. Austin, South Bend, Ind.

It was found that both of the proposed amendments to the Constitution were decided in the negative. The vote on Article IV, by which it was proposed to reduce the number of directors to seven, was: Affirmative, 280; negative, 30; blank, 23.

The vote on Article VI, by which it was proposed that the Constitution could be amended on a two-thirds affirmative vote of the ballots cast, instead of a two-thirds affirmative vote of *all the Fellows* of the Institute, was: Affirmative, 307; negative, 23; blank, 3.

The number of votes necessary to amend the Constitution is 310.

The publishers of the St. Louis Convention Souvenir presented a proposal to print a history of the Institute to be prepared by some prominent member of the same, with

"A photographic collection of all members of the Institute, together with a brief biographical sketch of each, and biographies of the most prominent deceased members, such as Messrs. Root, Richardson, Hunt and others; also a photographic collection and write-up of the most prominent builders, contractors and manufacturers in the building line; the whole to be published in two volumes—Volume I to contain the history of the Institute and portrait gallery of members, with biography of each, portraits of deceased members and biography; Volume II to contain write-ups and photographic collection of contractors, builders and manufacturers in the building trade."

It is proposed by the publishers, I. Haas & Co., if authority is granted them to publish such a work, to do it free of charge to the Institute and send to each Fellow of the Institute a handsomely bound copy free of charge. The matter was laid upon the table until the next meeting of the Board, when a full attendance is expected. Adjourned.

ASSOCIATION NOTES.

OMAHA BUILDERS' AND TRADERS' EXCHANGE.

At the annual election of the Omaha Builders' and Traders' Exchange, held at Omaha, on January 5, 1896, the following officers were elected: President, Walter Phelps; vice-president, W. C. Bullard; treasurer, W. B. Rutherford; secretary, W. L. Wedge; directors, M. B. Copeland, T. H. Haste, Charles Baxter, G. H. Kelly, Thomas Herd, A. D. Merriotte.

A NEW BUILDERS' CLUB AT CHICAGO.

The leading builders of Chicago have formed a Builders' Club like that in New York, and while occupying temporary quarters will immediately erect a building for club uses. Those employers connected with the building industry are eligible to membership. The charter roll includes about seventy-five of the leading builders of the city. The officers are: President, Joseph Downey; vice-president, Robert Vierling; second vice-president, E. Earnshaw; treasurer, Charles W. Gindele; secretary, Edward E. Scribner.

Board of managers—One year: William Grace, Frank S. Wright, William Mavor, Joseph R. Hansell, W. D. Gates. Two years: D. V. Purington, Murdock Campbell, T. A. Dungan, J. G. McCarthy, W. H. Alsip. Three years: S. S. Kimball, L. L. Leach, J. C. McFarland, M. B. Madden, A. Lanquist.

THE ST. LOUIS ARCHITECTURAL CLUB.

The St. Louis Architectural Club held its annual meeting January 10, and elected the following officers: J. W. Ginder, pres-

ident; W. T. Bailey, first vice-president; Francis C. Dwyer, second vice-president; Frank Stiff, secretary; Charles Detering, treasurer; W. B. Ittner, and B. F. Orear, advisory members of the Executive Board. The headquarters of the club are in the Hagan building. It has an organized class in architecture, which meets on Thursday night of each week, with A. Guissart, Oscar Enders and J. W. Ginder, instructors; a modeling class on Tuesday nights, with W. T. Bailey and Frank Seifert, instructors; classes in water colors meeting on Sunday mornings and Tuesday nights, with Francis C. Dwyer and F. Humphrey Woolrych, instructors. Much enthusiasm is being displayed by the members this year.

CHICAGO ARCHITECTURAL CLUB.

The third annual competition for the gold medal of the Illinois Chapter of the American Institute of Architects, under the auspices of the Chicago Architectural Club, is open to those members of the club who have not practiced as principals more than two years. The award will be made by a committee appointed by the Chapter, which also reserves the right to withhold the medal if in the opinion of the adjudicating committee no design is of high merit. The prize drawing to become the property of the Chapter.

The problem is as follows:

It is proposed to place in the new Lake Front Park a pavilion, which shall be devoted principally to band music. The semi-circular theater, to seat about three thousand, should be roofed over permanently, and so arranged that it can be inclosed in winter. The band-stand should be large enough to contain seventy-five pieces. The covered promenade, or foyer, should connect at the ends with two refreshment rooms, each large enough to seat two hundred people at tables. These tables should be in view of the band, but screened from the theater. There should also be two small serving rooms. The promenade should not be so high from the ground as to cut off the view of the band from the carriages. The competitor should keep in mind the work of the Club on the Lake Front Park, and suit his design to the place assigned for the pavilion.

The drawings required are one plan and one elevation at the scale of one-sixteenth of an inch to one foot, and one perspective at the scale of one-eighth of an inch to one foot, at the nearest point of the building. The plan of elevation to be on one sheet and the perspective on another. Drawings to be rendered at will and mounted on strainers twenty-eight by forty inches, without frames or glass. A sealed envelope containing the name and full address of the author must be securely fastened to each drawing. The drawings and envelopes themselves must not be marked by a device of any kind. Drawings must be delivered to Frank M. Garden, Secretary Chicago Architectural Club, at the Club House, 274 Michigan Ave., Chicago, on or before Tuesday, March 10, 1896, charges to be prepaid. All drawings, excepting those awarded the prize, will be returned at the expense of the contributor.

SOCIETY OF BEAUX ARTS ARCHITECTS.

The Committee on Education of the Society of Beaux Arts Architects for the year 1895-96 proposes as a subject for Competition No. 2 the façade of a small theater. The programme is as follows:

The theater faces on a public square, and is surrounded by streets. The entrance to the main vestibule will be by three openings.

In the second story over the entrance will be a loggia. The Corinthian order must be employed in the decoration of the loggia.

The lot will be rectangular, with a frontage of 80 feet on the public square.

A sketch on tracing paper of the plan of entrance and vestibule and a façade at a scale of 1-16 inch to the foot will be required of all students intending to compete, and should be addressed on or before January 28, to Mr. Albert L. Brockway, chairman, 55 Broadway, New York city.

For the finished drawings there will be required plans of the first and second story, and a section, at a scale of 1/8 inch to the foot, and the façade at 1/2-inch scale to the foot; also an interesting detail of the Corinthian order at one-quarter full size.

These drawings are to be rendered in water color, mounted on stretchers, and forwarded on or before April 1, 1896, to W. S. Budworth & Son, 424 West Fifty-second street, New York city.

New York, January 8, 1896.

(Signed)

ALBERT L. BROCKWAY, Chairman,
JOHN M. CARRERE,
JOHN G. HOWARD,
WHITNEY WARREN,
E. L. MASQUERAY,
Committee on Education.

NOTE.—This competition is open to all students of architecture. Conditions of judgment and jury to be arranged by the committee.

NEW PUBLICATIONS.

WE are glad to receive the first number of "The Digest of Physical Tests and Laboratory Practice." It is published quarterly by Frederick A. Riehle, 1424 North Ninth street, Philadelphia. Terms, \$1 per year. Owing to the great and increasing number of technical schools it is impracticable for a professional man to become acquainted with the proceedings and publications of but few of them, perhaps with none. Such a digest is a boon to the technical business man. The present number is both interesting and instructive. It deserves, and we wish it, success.

AS AN appropriate souvenir of the ninth convention of the National Association of Builders, the Builders' Exchange, of Baltimore, issued a handsome volume of nearly two hundred pages, profusely illustrated, entitled, "Baltimore: The Old Town and the Modern City." A substantial morocco binding adds permanence and beauty to the book. It is printed on the very best quality of

plate paper and is as handsome typographically as it is interesting and valuable historically. A history of the old town, dating from the foundation of Baltimore, is given briefly but completely. Then follows an extended description of Baltimore, the modern city, illustrated with a large number of half-tone engravings taken from actual photographs of prominent buildings. This is the work of Mr. W. H. Love, and is creditably done. The work concludes with an able article on "Architecture in Baltimore," from the pen of Architect J. B. Noel Wyatt. The growth of architecture in the city from the earliest times is sketched in a very entertaining manner. The article is a fitting *finale* to a really excellent volume, which will be cherished by all members of the Association as a most appropriate souvenir of the convention. Incidentally, it may be remarked that the total absence of any advertising matter whatever is a thoroughly commendable feature of the volume.

OUR ILLUSTRATIONS.

Residence of Dr. G. Hunter Bartlett, Buffalo, New York; W. W. Johnson, Architect.

Residence of Herbert C. Chivers, architect, St. Louis, Missouri.

Residence of J. C. Roberts, St. Louis, Missouri; J. B. Legg & Co., architects.

Arcade at Indianapolis, Indiana, for Dickson & Talbott; Vonnegut & Bohn, architects.

Residence of Edwin H. Terrell, San Antonio, Texas; Alfred Giles & Guindon, architects.

Accepted design, Ferry & Clas, architects, Milwaukee; final competition, Library of the University of Wisconsin, Madison.

Second premium design, submitted by Van Brunt & Howe, architects, Kansas City, Mo.; final competition, Library of the University of Wisconsin, Madison.

Photogravure Plate: Residence of J. MacMeans, North Edge-water, Chicago; George W. Maher, architect. Residence of J. C. Scales, Buena Park, Chicago; George W. Maher, architect.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Residence of B. S. Thompson, Detroit, Michigan; Mason & Rice, architects.

Residence of Mr. Long, Detroit, Michigan; Rogers & McFarlane, architects.

Residence of Frank A. Osburn, Detroit, Michigan; John Scott & Co., architects.

Residence for A. B. Towers, Stratford Place, Chicago; also, detail of same; George W. Maher, architect.

Residence of Emmons Blaine, Chicago; Shepley, Rutan & Coolidge, architects. Front and side views are given.

OBITUARY.

A. PAGE BROWN.

The profession throughout the United States will learn with regret of the death of A. Page Brown, of San Francisco, which occurred at his home at Burlingame, a suburb of San Francisco, on January 20. Mr. Brown left New York and established himself in San Francisco six years ago, and immediately became one of the leading architects on the coast. His first important work was the designing of the Crocker building, and those of the Y. M. C. A. and Trinity Church followed. He designed the California building at the Columbian Exposition and several of the main buildings for the California fair which was held in the winter of 1894. Mr. Brown was thirty-six years of age and in full robust manhood when last October he met with an accident while driving, his horse running away and precipitating him from a bridge into the bed of a creek fifteen feet below. His work for several years has attracted the attention of architects throughout the country and was at once scholarly and definite in its lines, his adaptation of the Spanish mission style being especially admirable. He leaves a widow, a daughter of Judge Pryor, of New York, and three children.

MORTIMER L. SMITH.

Mortimer L. Smith, of the architectural firm of M. L. Smith & Sons, of Detroit, Michigan, died in that city on January 19. Mr. Smith was the son of Sheldon Smith, for many years one of Detroit's leading practitioners, and his sons are also architects. In life he was an enthusiastic practitioner, always striving for the elevation and correct practice of his profession, and the many important buildings which were designed by him evidence the high place he attained in the practice of his art. He was fifty-six years of age at the time of his death, and a member of the American Institute of Architects.

AMOS P. CUTTING.

The death of Amos P. Cutting of Worcester, Mass., which occurred at Los Angeles, Cal., on February 6, removes from the ranks of the profession, and the membership of the American Institute of Architects, another of those spirits in whom the honor and dignity of the profession was a leading motive. Mr. Cutting was born in Lime, New Hampshire, was 55 years of age, and resided in Worcester since 1863. His work was correct and scholarly, and his church designs were particularly notable. As a member of the Institute he was ever on the side of conservative and correct practice, while his genial, kindly nature made him many friends within and without the profession. He leaves a wife and seven children. His remains will be taken to Worcester for burial.

MOSAICS.

AN order was passed by the Boston City Council on January 16, requesting the mayor to petition the general court for an act providing that all plans and designs of public buildings hereafter erected in Boston shall require the approval of the art commission before acceptance.

THE firm of Nettleton, Kohn & Trowbridge, architects, at 38 Campau building, Detroit, is announced, consisting of George W. Nettleton, Albert Kohn and Alex. Buel Trowbridge. The two former gentlemen have been with the firm of Mason & Rice for the past ten years, and the latter, has recently returned from pursuing the course of study at the École des Beaux Arts, at Paris.

A SERIES of experiments, having for their object the testing of arches of varying degrees of span, and the strength and elasticity of the materials employed in their construction, has been recently carried out in Vienna under the auspices of the Austrian Society of Engineers and Architects. No less a sum than £3,200 was spent on the operations, the whole of which was borne by the society and a few public-spirited supporters. An exhaustive report on the results of the experiments has been drawn up and published in the *Zeitschrift des Oesterreichischen Ingenieur-und Architekten-Vereines*, 1895, Nos. 20-34, which may be consulted in the library. The report is divided as follows: (1) Tests of seventeen floor arches with spans of 4.76, 8.86, and 14.76 feet of all kinds of floor construction; (2) tests of two culverts of 32.8 feet span and one-tenth rise; (3) tests of four bridges of 75 feet span, one-fifth rise. Particulars of the foregoing are accompanied with a full record as to the deflection and other details. (4) An exhaustive series of tests to determine the strength and elasticity of all materials used in the arches; (5) a theoretical calculation based on the results obtained; (6) conclusion from the results in respect of theory and construction. Having regard to the importance to the building trade of the conclusions brought out in these experiments, the society are anxious to give the widest publicity to the report, and announce a reprint in a separate form, which may be obtained for 10 shillings from the office of the *Zeitschrift*, Vienna I, Eschenbachgasse 9.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT, }
CHICAGO, Ill., February 10, 1896. }

The conditions in building, commercial, financial and manufacturing circles are somewhat better than they appear to be on the surface. The sudden upheaval of last summer has been followed by its inevitable reaction. The movement of the government to borrow \$100,000,000 created a stringency that led banks to reduce their discounts, and this in turn led to a curtailment of the volume of trade twenty-five per cent as compared to three months ago. All business interests are restless and anxious to rush in and make 1896 a phenomenal year. Prices for the most part are low, but in certain lines an advancing tendency is asserting itself. Traders are effecting organization for their legitimate protection and with a view to the regulation of supply to legitimate demand. This is a good sign. Competition under this management will be less destructive this year than heretofore. Manufacturers recognize past errors, and are aiming to act with greater prudence and foresight. All classes of trade are in healthful condition. There is indebtedness to be reduced, but there is not that towering mountain of urgent obligations which in past experience was generally the precursor of a panic. There are healthier conditions, more self-control, more conservatism, less recklessness. In the building trades great preparations are being made for the coming season. Contracts have, in many cases, been already made for lumber, brick, stone, etc. In a general way, prices are firm. So far as advices warrant the drawing of conclusions, there will be a decided increase in building over last year. Last year's investments were, in the main, profitable; houses rented and sold, manufacturing were built and equipped and operated to advantage, city office buildings climbed skyward and the marts of commerce and the centers of industry gave abundant evidences of an extraordinary activity. These conditions are likely to be repeated in 1896. There is money, energy, necessities, and the work of the year will be early inaugurated. Business men have suffered long and are not yet out of the woods, but they feel encouraged and confident that all will be well. Material men have increased shop, yard and mill equipments. The season is near at hand and the probabilities of stronger prices in the spring are leading many to enter into contracts. Production will probably, however, prevent any serious advances in any direction.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Architects Ostling Brothers: For Mrs. Catherine Beuson, a three-story flat building, 50 feet front and 60 feet in depth; to be erected at Chatham court; it will have a front of pressed brick with buff Bedford stone trimmings, hardwood interior finish, mantels, sideboards, gas and electric fixtures, the modern open plumbing, steam heating, etc.

Architect Frederick Ahlschlager: For Christopher Guderjahn, a two-story and basement flat building, 48 by 85 feet in size; to be erected at 936 to 938 West Sixty-third street; it will have a buff Bedford stone basement, and above this will be of pressed brick with stone trimmings, the interior to be finished in oak and Georgia pine, have the modern sanitary improvements, mantels, sideboards, gas fixtures, ranges and fireplaces, electric bells, speaking tubes, steam heating. Also preparing plans for dormitory, 55 by 96 feet in size, three stories and basement, to be erected at Elmhurst, Illinois, for the Evangelical Theological Seminary; it will be of stone and pressed brick, have interior finished in Georgia pine, hard oil finish; will put in the modern sanitary conveniences, gas and electric fixtures, electric bells and speaking tubes, electric

light, steam heating. Also made plans for a three-story and basement flat building, to be erected on Calumet avenue near Fifty-third street; it will have a buff Bedford stone front, hardwood interior finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, electric light, speaking tubes, electric bells, steam heating. For Joseph Stein, a three-story and basement apartment building, 50 feet front and 80 feet in depth, to be erected at Fifty-fifth street and Michigan avenue; the front will be of buff Bedford stone, the interior to be finished in quarter-sawn oak, have marble and tile work, gas and electric fixtures, gas ranges and fireplaces, steam heating. Also made plans for addition to German Evangelical Lutheran Orphan Asylum, at Addison, Illinois; it will be two stories and basement, 50 by 80 feet in size; of brick, have all modern improvements, gas fixtures, hardwood finish, steam heating.

Architect D. Mahaffey: For J. Magnaser, at Rogers Park, a two-story, basement and attic residence, 31 by 40 feet in size; to be of frame construction with rockfaced, blue Bedford stone basement and chimney, the interior to be finished in quarter-sawn oak, and have special sideboards and mantels, gas fixtures, all open plumbing, etc.

Architect Robert B. Hotchkiss: For Percy L. Schumann, a two-story, basement and attic residence, 26 by 45 feet in size; to be erected at Evanston; it will be constructed of Brazil (Indiana) tile sides, hollow tiles, for the first story, and the second story will be of shingle tile, and the roof of red tile; the interior will be finished in oak, and have mantels, sideboards, gas fixtures, the best of sanitary improvements, hot-water heating.

Architect A. F. Hussander: For L. Monat, a two-story and basement frame residence, 32 by 48 feet in size; to be erected at Rogers Park; it will have a brick basement, oak interior finish, mantels and sideboards, gas fixtures, heating, etc. Also made plans for a one-story chapel, 56 by 77 feet in size; to be erected at Fullerton and Cleveland avenues; it will be of brick and stone, have oak interior finish, decoration, stained glass, electric light, steam heating, etc.; the seating capacity will be for six hundred persons.

Architect Lonsdale Green: Made plans for the Asylum for the Insane, to be erected at Peoria. It will be three stories and basement, have pressed brick and stone fronts, hardwood interior finish, the modern plumbing gas and electric fixtures, ventilating system, electric light, electric bells and speaking tubes, laundry fixtures, driers, etc., steam heating.

Architect W. L. Newman: For Mrs. Kate Tingney, a two-story and cellar flat building, 26 by 65 feet in size; to be built at Flournoy street near Kedzie avenue. It will be of stone front, have hardwood finish, mantels and sideboards, the modern plumbing, gas fixtures, etc.

Architect George R. Davis: For D. M. Hayes, a three-story apartment building, to be erected at 5409 to 5411 Calumet avenue. It will have a Bedford stone front, hardwood interior finish, mantels and sideboards, the best of modern sanitary improvements, gas and electric fixtures, heating, etc.

Architect E. C. Jensen: For C. C. Johnson, a three-story apartment house 100 feet front and 65 feet deep, to be erected at 5741 to 5747 Drexel avenue; it will be of pressed brick with buff Bedford stone trimmings, have hardwood interior, all modern open plumbing, mantels, sideboards, gas and electric fixtures, electric bells, speaking tubes, steam heating.

Architects Murphy & Camp: For Charles H. Jones, a three-story and basement apartment house, 35 by 85 feet in size; to be erected at 5006 Michigan avenue; it will have a buff Bedford stone front, oak and Georgia pine interior finish, mantels and sideboards, gas and electric fixtures, steam heating, etc. Also made plans for a two-story, basement and attic residence, 34 by 58 feet in size; to be erected at Ravenswood; it will be of pressed brick and stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, speaking tubes, electric bells, heating, etc. For Andrew O'Donnell, a three-story and basement apartment house, 52 feet front and 60 deep; to be erected at Forty-seventh street and Indiana avenue; it will be of buff Bedford stone front, have interior finished in oak and Georgia pine, mantels sideboards, the modern open sanitary plumbing, gas and electric fixtures, speaking tubes, laundry fixtures, steam heating.

Architect Morrison H. Vail: For Messrs. Clark & Weber, two two-story, basement and attic residences, 40 by 48 feet in size; to be built at the corner of Wilson avenue and Perry street, Ravenswood. They will be of buff pressed brick fronts with Bedford stone trimmings, have interior finish in quarter-sawn oak, all open sanitary plumbing, mantels, sideboards, gas and electric fixtures, furnaces, etc. For Mrs. Wilson, remodeling residence into modern flat building at Paulina street near Berteau; will put in new plumbing, mantels, gas fixtures, furnaces, etc. Also making sketches for a handsome apartment building, to be erected on the South Side; it will be eight stories and basement, 110 by 163 feet in size; the first story and basement to be of buff Bedford rock-faced stone, and above this will be of buff pressed brick with terra cotta trimmings and copper cornice; it will be a strictly fireproof building, have very fine interior finish in quarter-sawn oak, marble wainscoting, tile bathrooms, mosaic floors, specially designed sideboards, consoles and mantels, gas and electric fixtures, gas ranges and fireplaces, elevators, electric light, steam heating and all modern improvements. For Thomas Storr, a two-story, basement and attic frame residence, 24 by 45 feet in size; to be built at Bernice street near Wolcott, Ravenswood; it will have a pressed brick basement, hardwood interior finish and mantels, gas and electric fixtures, the modern sanitary improvements, furnace, etc. For J. P. Winn, also on Bernice street near Wolcott, Ravenswood a two-story, basement and attic frame house, to have brick basement, oak interior finish and mantels and sideboards, all open sanitary plumbing, gas fixtures.

Architects Jaffray & Smith: For Mrs. Frank Wheeler, a two-story, basement and attic frame residence, 32 by 45 feet in size; to be built at Winnetka; it will have a stone basement, all hardwood finish throughout, the sanitary conveniences, gas fixtures, mantels, furnace, etc.

Architects Huehl & Schmid: For John G. Jones, a four-story store and flat building, 25 by 76 feet in size; to be erected at 442 West Van Buren street; it will be of pressed brick and stone front, have all the modern sanitary improvements, gas and electric fixtures, mantels, steam heating, etc. Also made plans for a three-story and basement flat building, 25 by 66 feet in size; to be erected at Barry avenue near Clark street; it will have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas and electric fixtures, nickel-plated plumbing, steam heating. For H. J. Peet, a two-story and basement store and flat building, 45 by 70 feet in size; to be of buff pressed brick with Bedford stone trimmings, have hardwood interior finish, gas and electric fixtures, mantels, electric light, steam heating, etc.

Architect W. M. Walter: For George R. Peare, a two-story, basement and attic residence, 35 by 60 feet in size; to be built at Edgewater; it will be of frame with stone basement, have hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, heating, etc.

Architects Bright & Burfeind: Making plans for a frame church—Evangelical Lutheran, Rev. J. H. Rabe—to be erected at Yorkville, Illinois; it will have a stone foundation, hardwood interior finish pews to seat 240 persons, furnace bell, furniture, etc. Also making plans for a three-story and basement store and flat building, 25 by 65 feet in size; to be erected at Lincoln avenue near Fay street; it will be of pressed brick with buff Bedford stone trimmings, and galvanized iron bays and cornices; have interior finished in Georgia pine, mantels, sideboards, gas and electric fixtures, modern open sanitary plumbing, ornamental ironwork, electric light, steam heating.

Architect H. H. Richards: For F. Miller, four two-story, basement and attic residences, to be erected at Englewood; they will be of buff Bedford stone fronts, have hardwood interior finish, mantels and sideboards, gas fixtures, all the modern sanitary conveniences, heating, etc.

Architects Dinwiddie & Newberry: For Messrs. Raworth & Schodde, a two-story and basement factory, 50 by 100 feet in size; to be erected at Huron street between Wells and Franklin streets; it will be of pressed brick and stone front, have steam heating and power.

Architect Edward W. Curtis, Jr.: For Edward Phillips, a five-story factory, 50 by 100 feet in size; to be erected at 126 and 128 Jefferson street; it will be of pressed

Architect G. L. Harvey: Making plans for the Provident Hospital, to be erected at Thirty-sixth and Dearborn streets; it will be four stories and basement; 20 by 125 feet in size; have pressed brick and stone front, the first story and basement being of stone; the interior to be finished in Georgia pine, have the best of modern plumbing, electric light, etc.

Architect Howard Van Doren Shaw: For N. Corwith, a handsome Colonial two-story, basement and attic residence; 50 by 37 feet in size; to be erected at Highland Park; it will be of frame with stone foundation and basement, have interior finished in oak, mahogany, gold enamel, and Georgia pine and white pine, the best of modern open plumbing, gas and electric fixtures, heating, etc. Also made plans for a three-story and basement flat building; 25 by 96 feet in size; to be erected at Center avenue near Taylor street; it will have a stone front, hardwood finish, mantels, gas fixtures, all open sanitary plumbing, electric bells, speaking tubes, steam heating. For B. G. Work, a handsome old Colonial residence, to be erected at Akron, Ohio; it will be of red brick with white stone trimmings, have hardwood finish, mantels, sideboards, gas fixtures, heating, etc.

Architects J. F. & J. P. Doern: For Hart & Frank, five three-story residences, to be erected at Forty-fourth street and Grand boulevard; they will have stone fronts, hardwood interior finish, mantels and sideboards, gas and electric fixtures, steam heating, etc.

Architect Robert S. Smith: For Mr. Phillips, a three-story flat building; 25 by 70 feet in size; to be erected at Indiana avenue near Fifty-second street; it will have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas fixtures, ranges and fireplaces, steam heating, etc. Also two-story residence, 25 by 60 feet in size; to be built at Douglas boulevard; it will have a stone front, all improvements, heating.

Architect Alfred Smith: For A. C. Perrill, a two-story, basement and attic residence; 25 by 60 feet in size; to be erected at 892 Warren avenue; it will be of cut stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, hot-water heating, etc.

Architects Church & Jobson: For J. W. Helm, a three-story and basement residence; 33 by 54 feet in size; to be erected at Edgewater; it will be of stone and frame, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, steam heating.

Architect W. H. Milner: For W. S. Barbee, a three-story store, flat and hall building; 50 by 175 feet in size; to be erected at Sixty-ninth street and Wentworth avenue; it will be of pressed brick and stone front, have hardwood finish, the sanitary plumbing, gas and electric fixtures, steam heating, etc. For Helena S. Goldeu, a two-story, basement and attic residence; 26 by 40 feet in size; to be erected at Belvidere; it will have a brick basement, hardwood interior finish, mantels, sideboards, etc. For George C. Moore, a two-story frame cottage; 35 by 40 feet in size; to be erected at Rogers Park; it will have a brick basement, hardwood finish, the best of sanitary plumbing, gas fixtures, etc.

Architect Jules De Horvath: For E. L. Yarlott, a three-story and basement apartment house, 165 by 52 feet in size; to be erected at the corner of Woodlawn avenue and Sixty-sixth street; it will have a pressed brick and stone front, hardwood finish, all the modern sanitary improvements, gas and electric fixtures, steam heating, etc.

Architect Julian Barnes: Made plans for the two-story, basement and attic hospital, 44 by 90 feet in size; to be erected at Moline, Illinois; it will be of stone all round, have interior finished in oak, modern sanitary improvements, electric light, elevator, steam heating, etc. For J. R. Oughton, a two-story stable, 48 by 80 feet in size; to be erected at Dwight, Illinois; it will be of frame, have slate roof, plumbing, etc. For Frank B. McKinnie, a handsome four-story, basement and attic residence, 75 by 106 feet in size; to be erected at the corner of Fifty-first boulevard and Lexington avenue; it will be of stone first story, and above this will be of pressed brick with terra cotta trimmings; the interior to be elegantly finished in hard woods, have the best of plumbing, gas and electric fixtures, electric light, steam heating; cost, \$80,000.

Architect H. P. Harned: For C. M. Hardy, a four-story apartment house, 50 by 54 feet in size; to be erected at Oakwood boulevard near Ellis avenue; it will have a front of pressed brick with stone and terra cotta trimmings, hardwood finish, mantels, sideboards, gas and electric fixtures, electric light, steam heating, etc.

Architect W. R. Gibb: For George Glass, a three-story store and flat building, 224 by 56 feet in size; to be built at Belmont avenue east of Ashland avenue; it will be of pressed brick and stone, have the sanitary improvements.

Architect H. T. Hazleton: For Mrs. H. E. Wilnot, a three-story and basement store and flat building, 50 by 145 feet in size; to be erected at the corner of Ashland avenue and Forty-seventh street; it will be of pressed brick and stone front, have hardwood finish, mantels and sideboards, steam heating.

Architect George Grunning: For Thomas Jubb, a two-story flat building, 25 by 52 feet in size; to be built at Flournoy street near Kedzie avenue; it will be of stone front, have hardwood finish, the modern plumbing, furnaces, etc. For L. B. Townsend, a two-story and basement flat building, 25 by 70 feet in size; to be built at 269 South Homan avenue; it will be of stone front, have the modern plumbing, steam heating, etc.

Architects Hallstrom & Ockerlund: For V. Peterson, a three-story and basement flat building, 50 by 62 feet in size; to be built at Ashland avenue near Graceland, Ravenswood; to be of pressed brick and stone front, have the modern sanitary improvements, steam heating, etc.

Architects Swift & Hall: For William Jenkins, a two-story, basement and attic residence, 33 by 65 feet in size; to be built at Rogers Park; it will be of frame with stone basement, have the modern plumbing, gas fixtures, hot water heating.

Architect I. C. Garbell: For Frank Follansbee, remodeling and addition to building at 2226 to 2228 Wabash avenue; front addition 44 by 30 feet, of pressed brick and stone; interior will be fitted up with new modern plumbing, hardwood finish, gas and electric fixtures, electric wiring, steam heating; cost about \$20,000.

Galesburg, Ill.—Architects Gottschalk & Beadle: Central Congregational Church, of stone and brick; to cost \$65,000. Also bank and office building for Galesburg National Bank, stone and brick, six stories; to cost \$70,000.

Pittsburg, Pa.—Architects Longfellow, Alden & Harlow: Two additional stories to the Carnegie building.

Architect W. S. Fraser: High School of stone and brick; to cost \$50,000.

Detroit, Mich.—Architects M. L. Smith & Son: For William D. Smith, two-story frame residence; to cost \$5,000; under way.

Architect H. W. Chamberlain: For H. W. Holcomb, two-story brick block of stores and flats; to cost \$12,000; under way.

Architects John Scott & Co.: For Michigan Insane Asylum, Pontiac, Michigan, three-story brick and stone cottage; size 100 feet by 90 feet, projected; to cost \$35,000. Also three-story stone jail and sheriff's residence; under way; to cost \$105,000.

Architects A. C. Varney & Co.: For J. R. McLaughlin, four two-story frame residences; under way; to cost \$14,000.

Architect E. C. Van Leyen: For J. R. McLaughlin, two two-story residences, frame; to cost \$7,000. Also two two-and-one-half story brick residences; to cost \$12,000.

Architect F. J. Grenier: For F. B. Hooper, ten two-story frame residences; cost \$10,000.

St. Paul, Minn.—Architect Bassford Donahue: For William Berresford, store building of brick and stone; size 80 by 100 feet; six stories; estimated cost \$75,000.

Architects Buechner & Jacobsen: For Richland Center, Wisconsin, Insane Hospital; size 60 by 120 feet; three stories, brick and stone; estimated cost \$40,000.

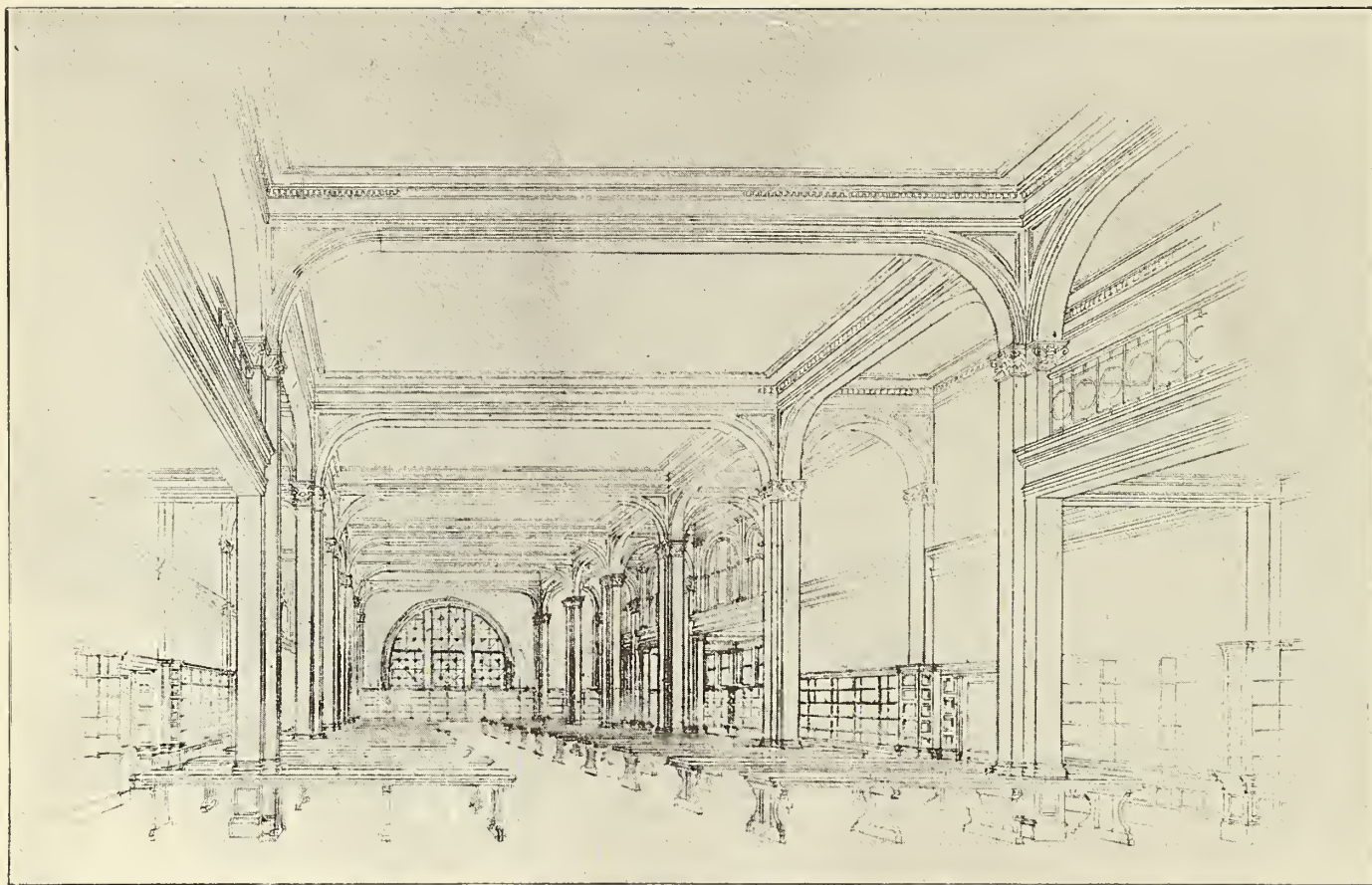
Architects Reed & Stern: Store and flat building; size 60 feet by 90 feet, of brick and terra cotta; estimated cost \$35,000.

Milwaukee, Wis.—Architects Schnetzky & Liebert: For George Brumder, office building, of pressed brick, stone and terra cotta; size 90 feet by 100 feet by 128 feet; eight stories; to cost \$300,000.

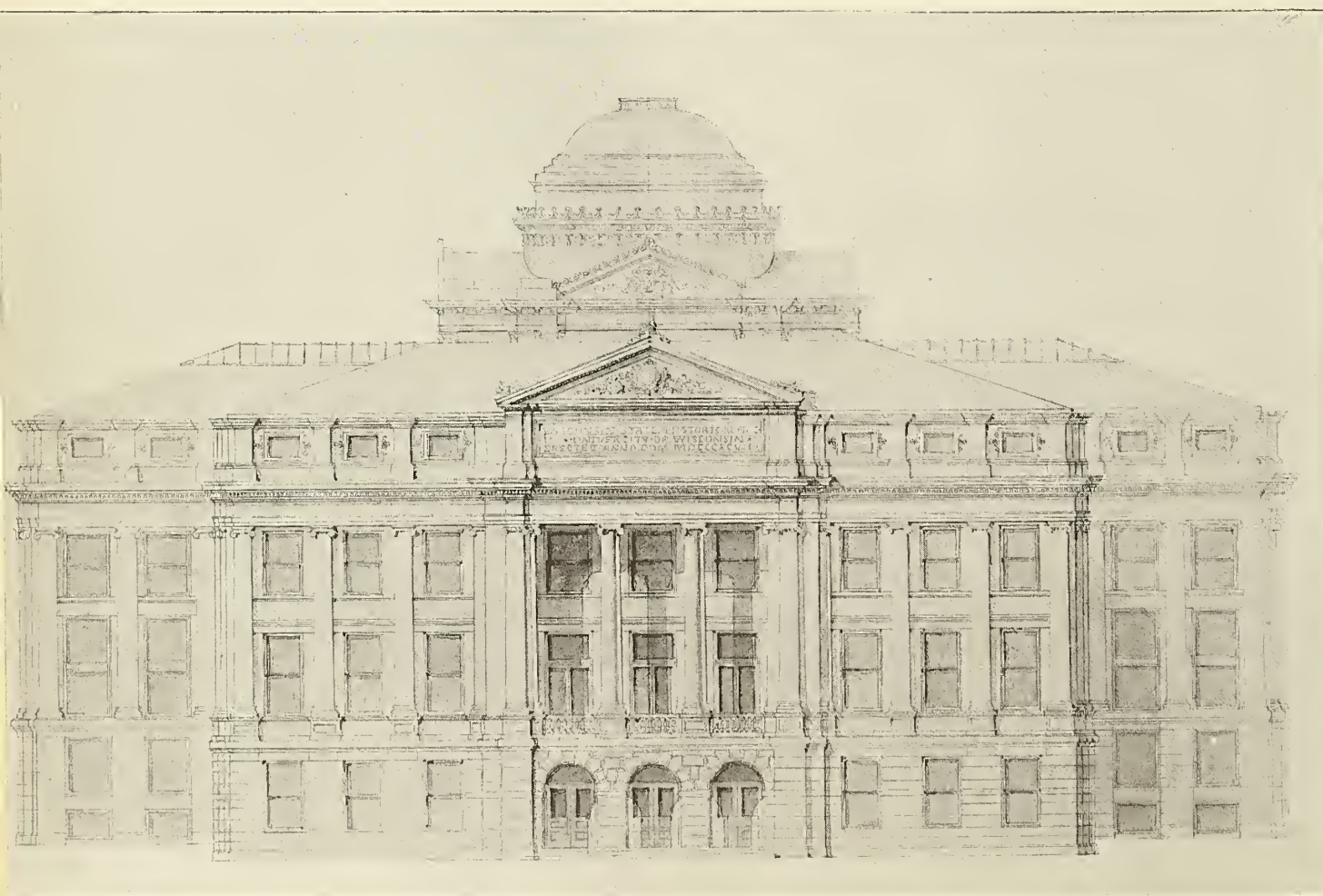
Sparta, Wis.—Architect J. G. Chandler: Racine, Wisconsin, school, of pressed brick and terra cotta; size 60 feet by 75 feet; to cost \$17,000.

Cherokee, Iowa.—Architects Josselyn & Taylor: Cedar Rapids, Iowa, State Hospital, of brick; size 100 feet by 150 feet; to cost \$400,000.

Mount Clemens, Mich.—Architect T. Van Damme: For Avery & Co., three-story frame hotel and mineral bathhouse; size 175 feet by 150 feet; projected; to cost \$60,000.



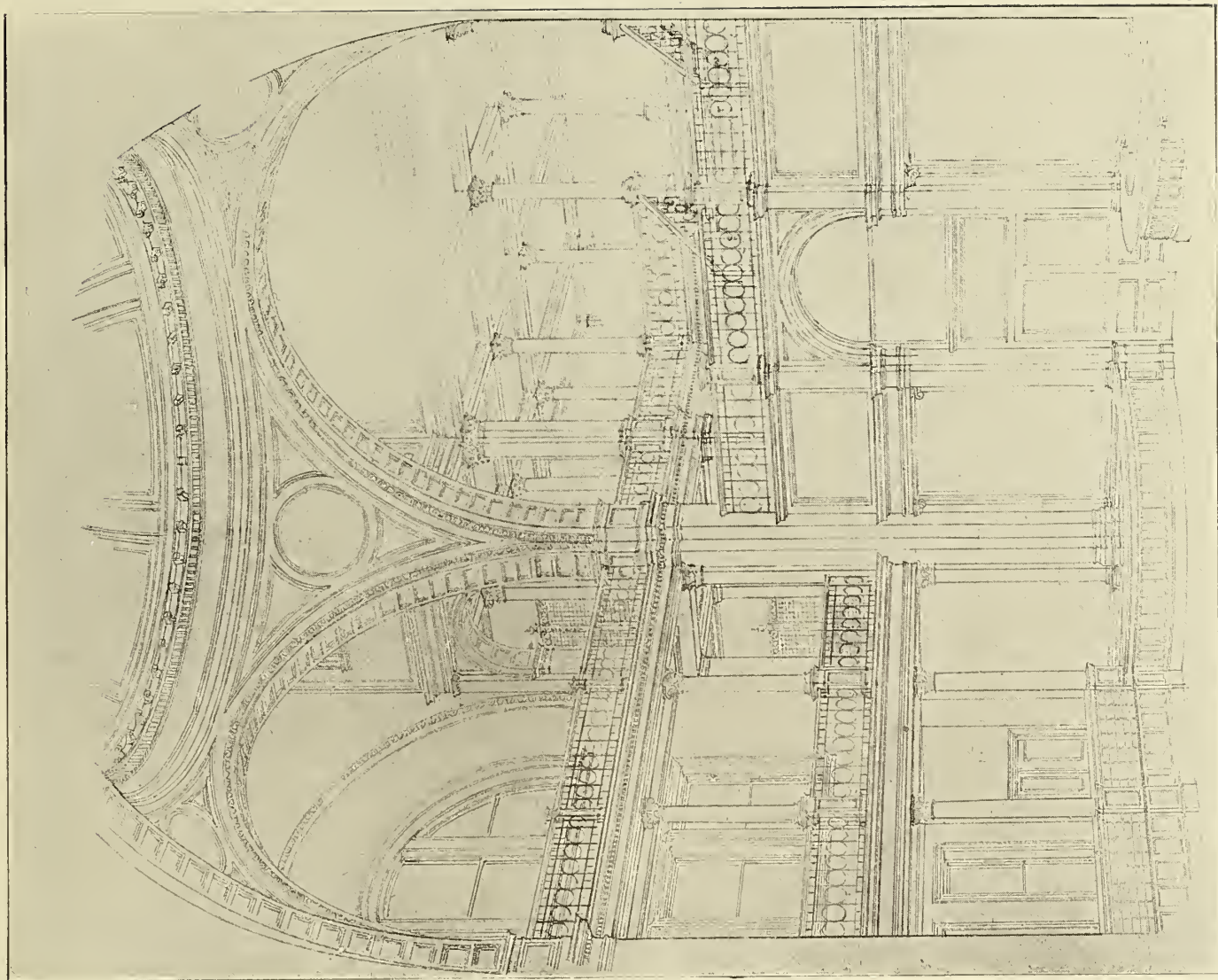
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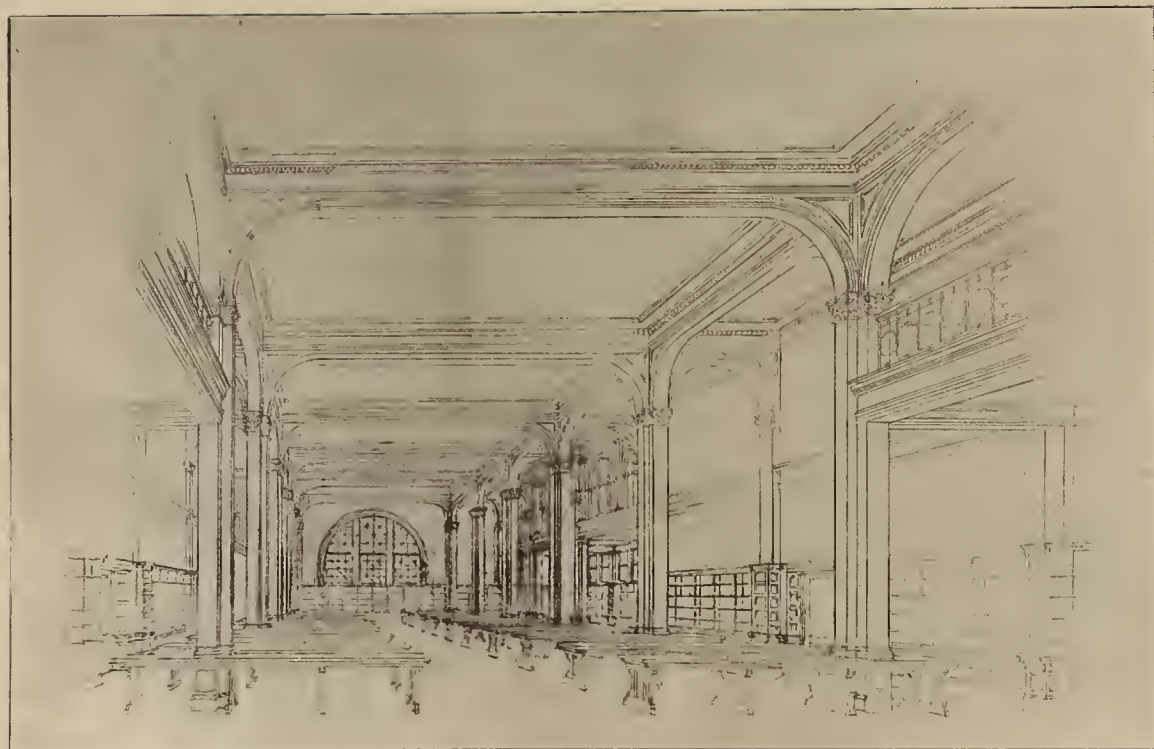
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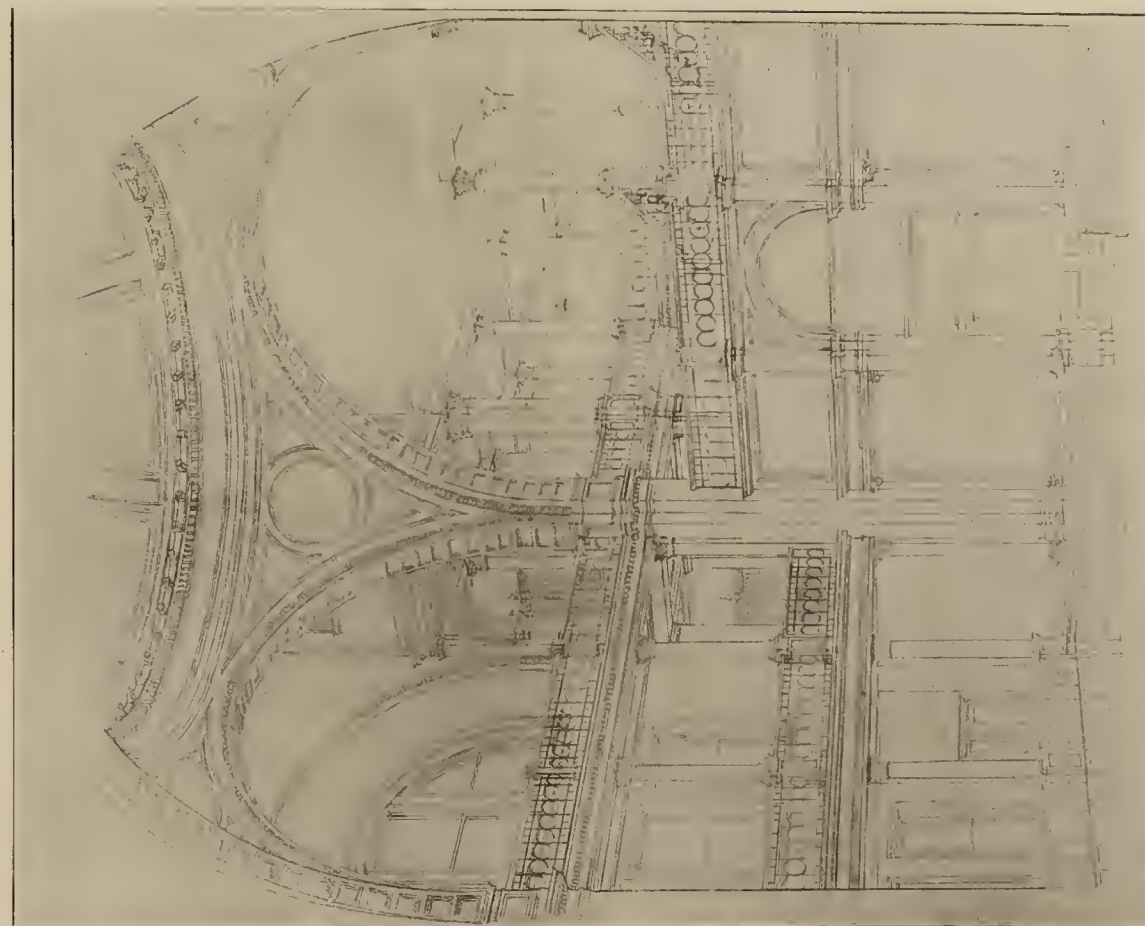
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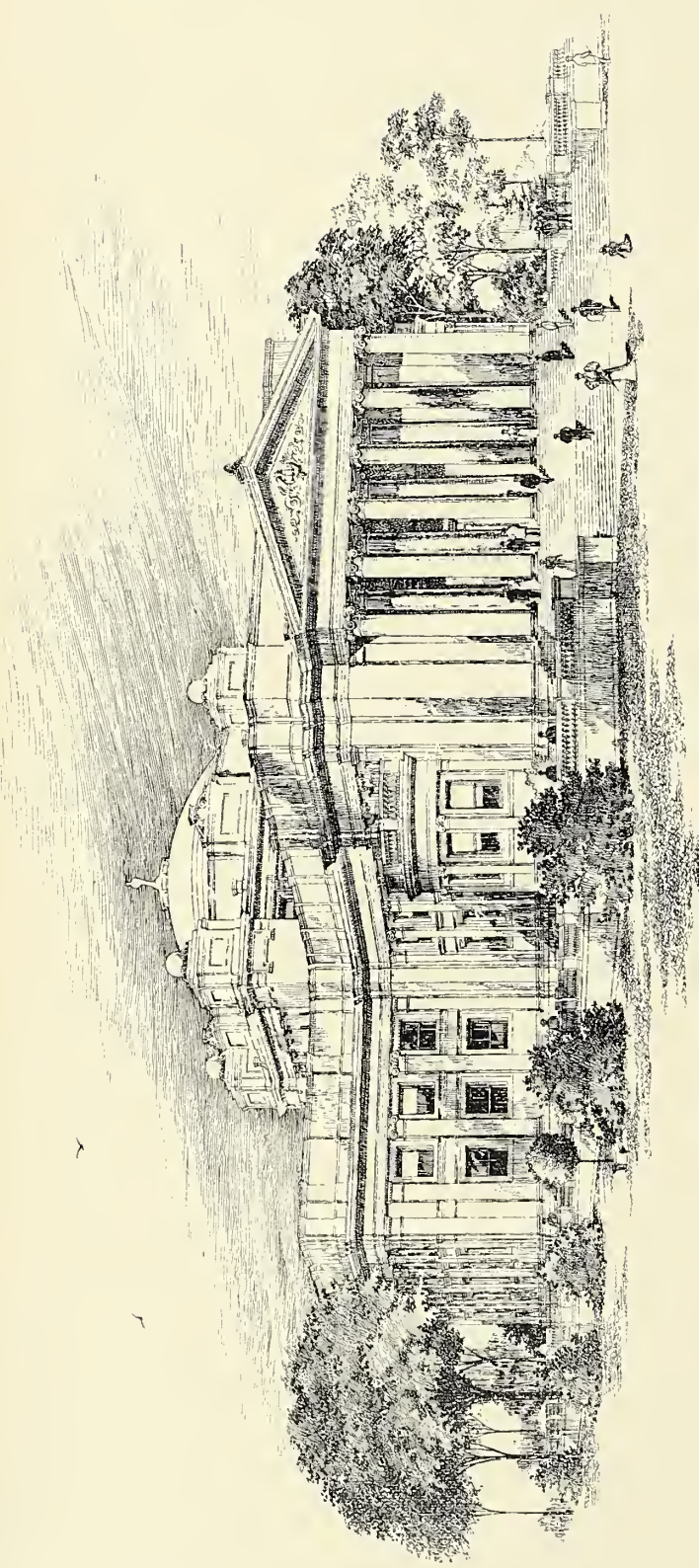


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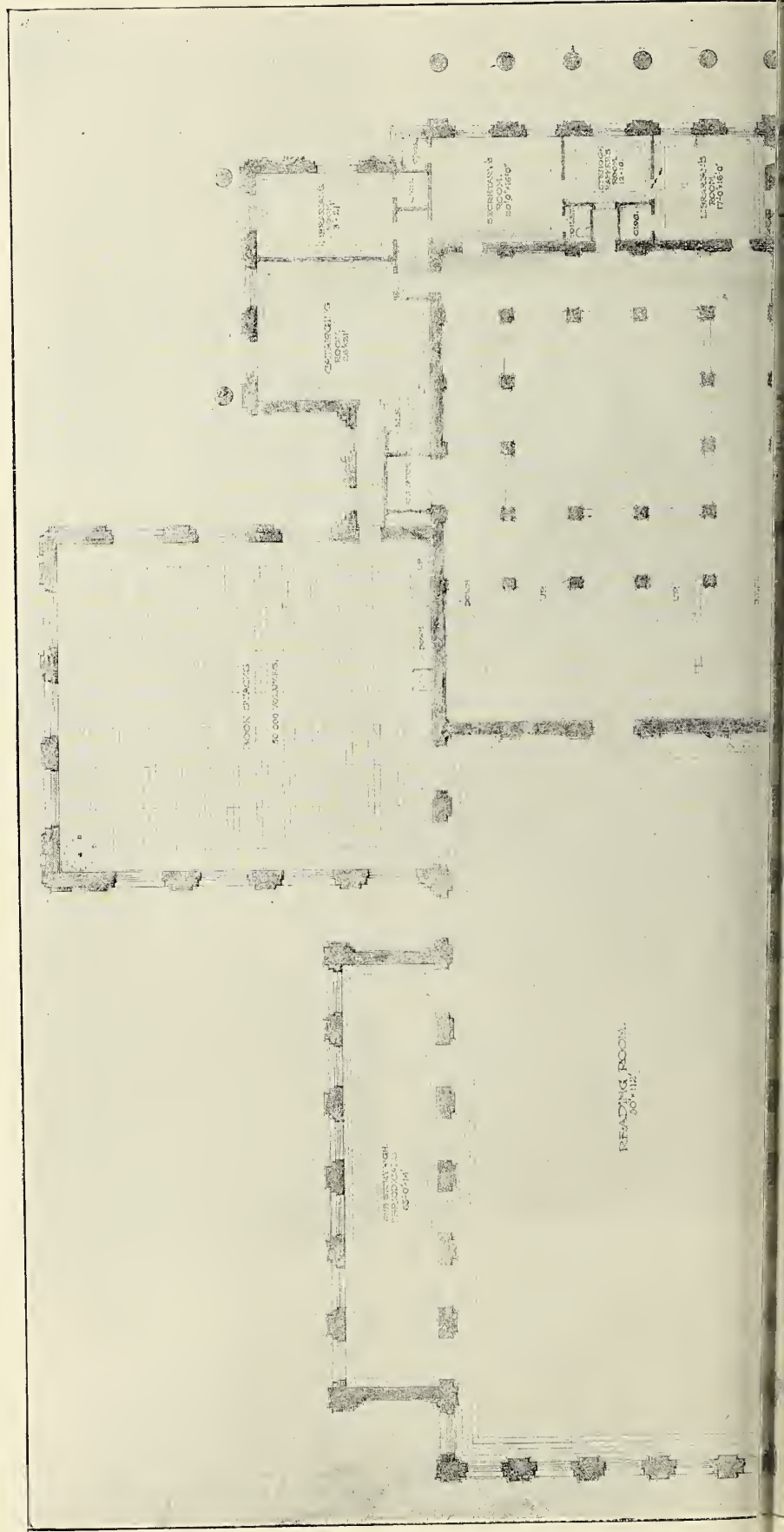
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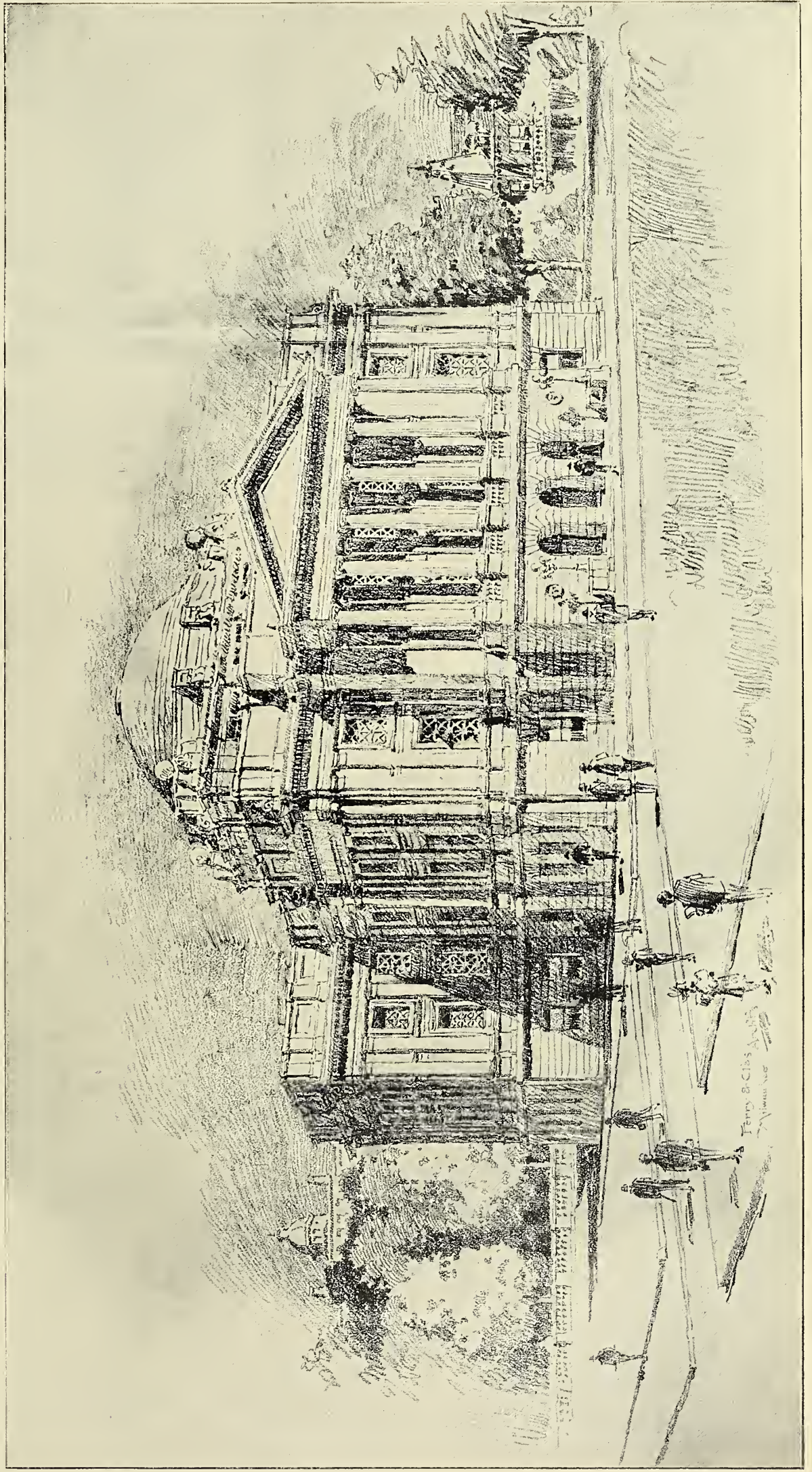
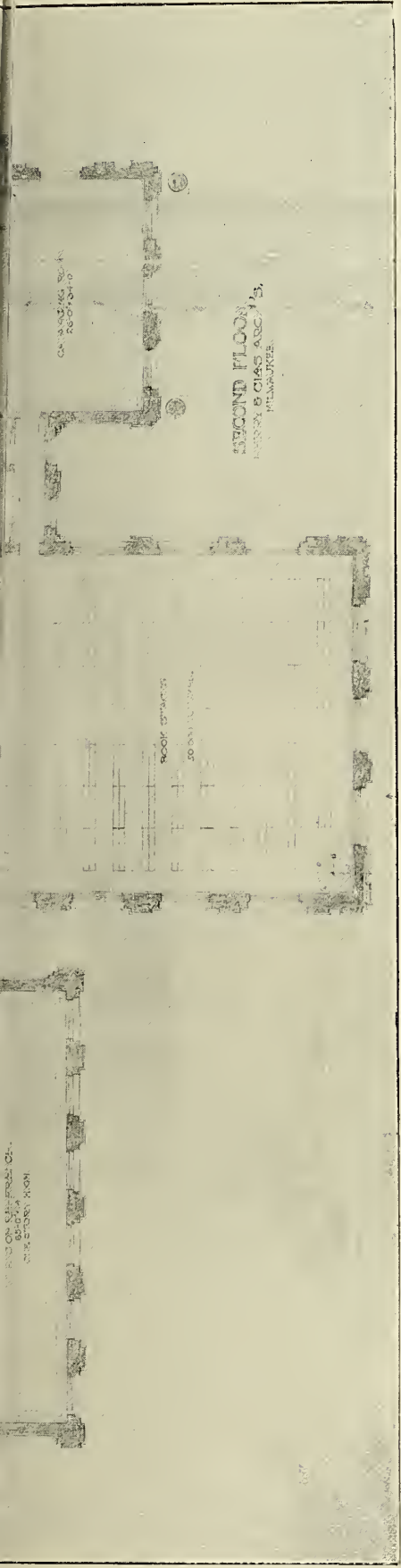
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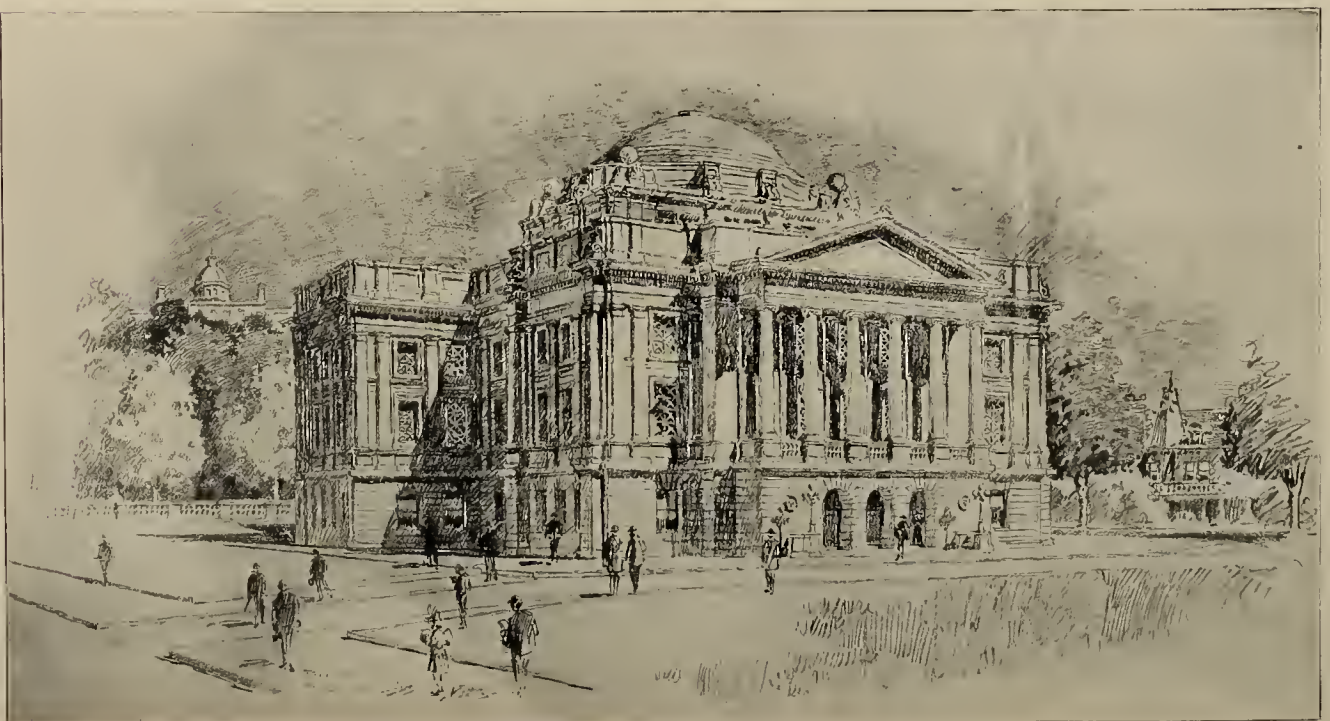
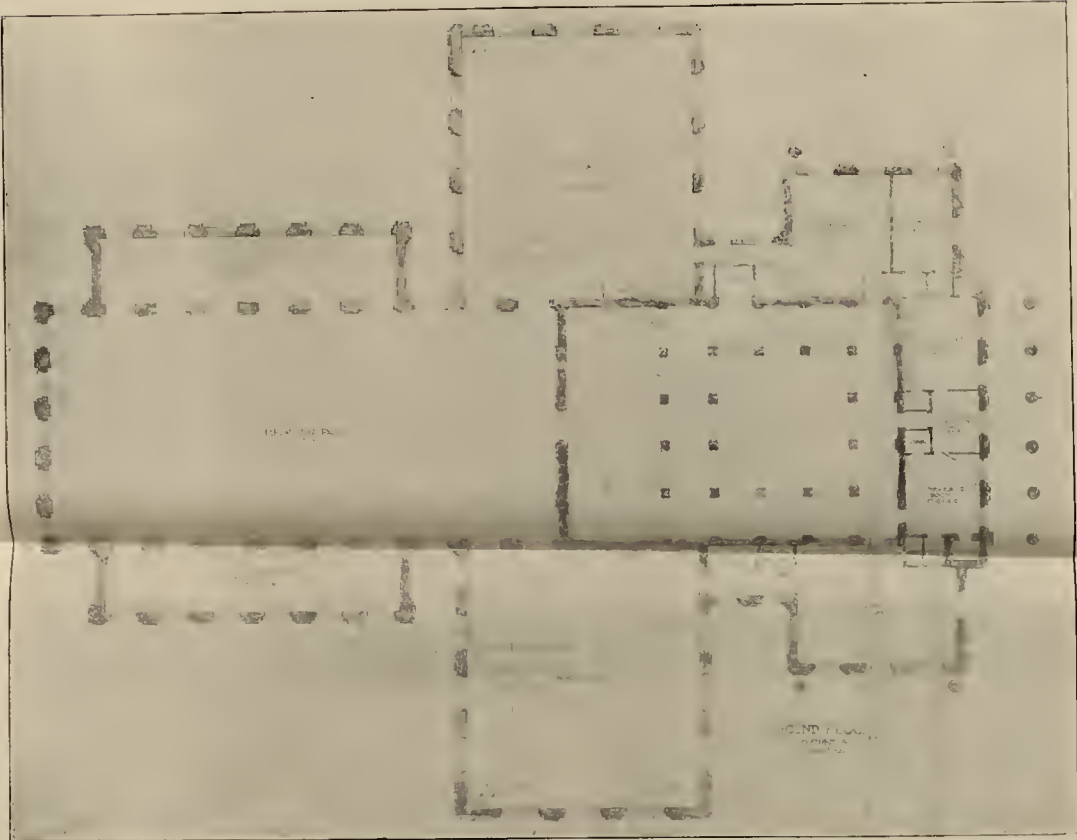
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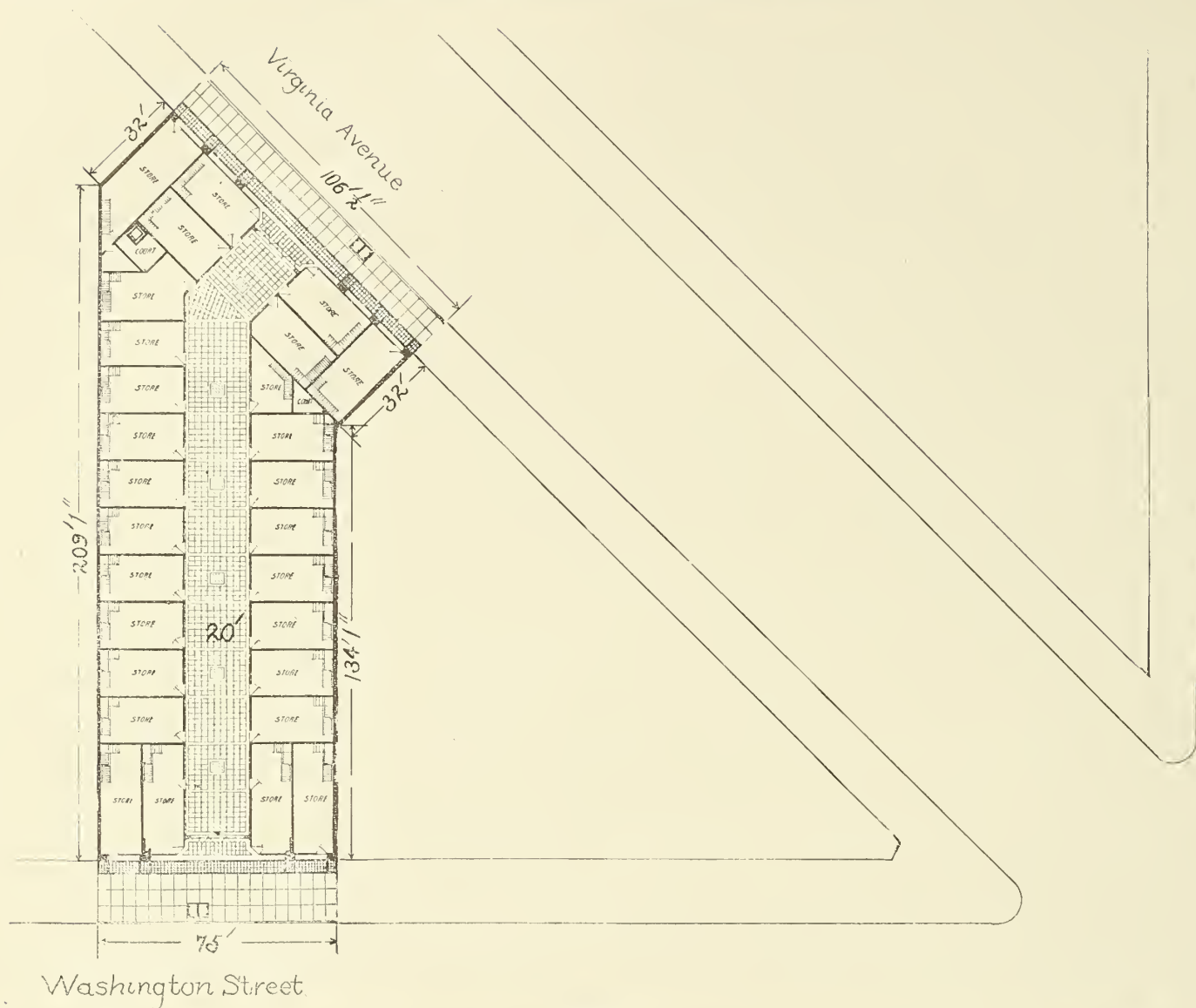






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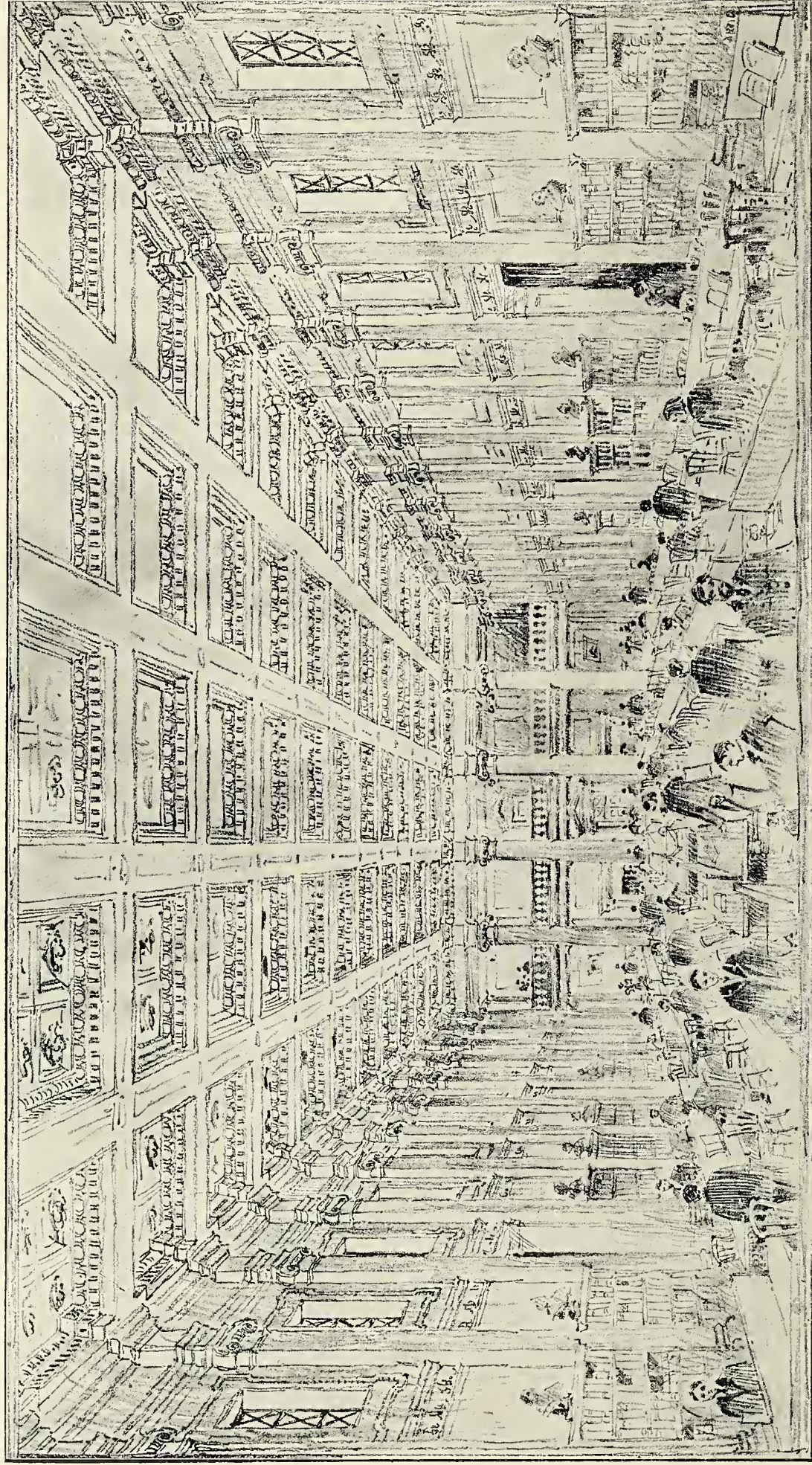
PLAN.



INTERIOR.

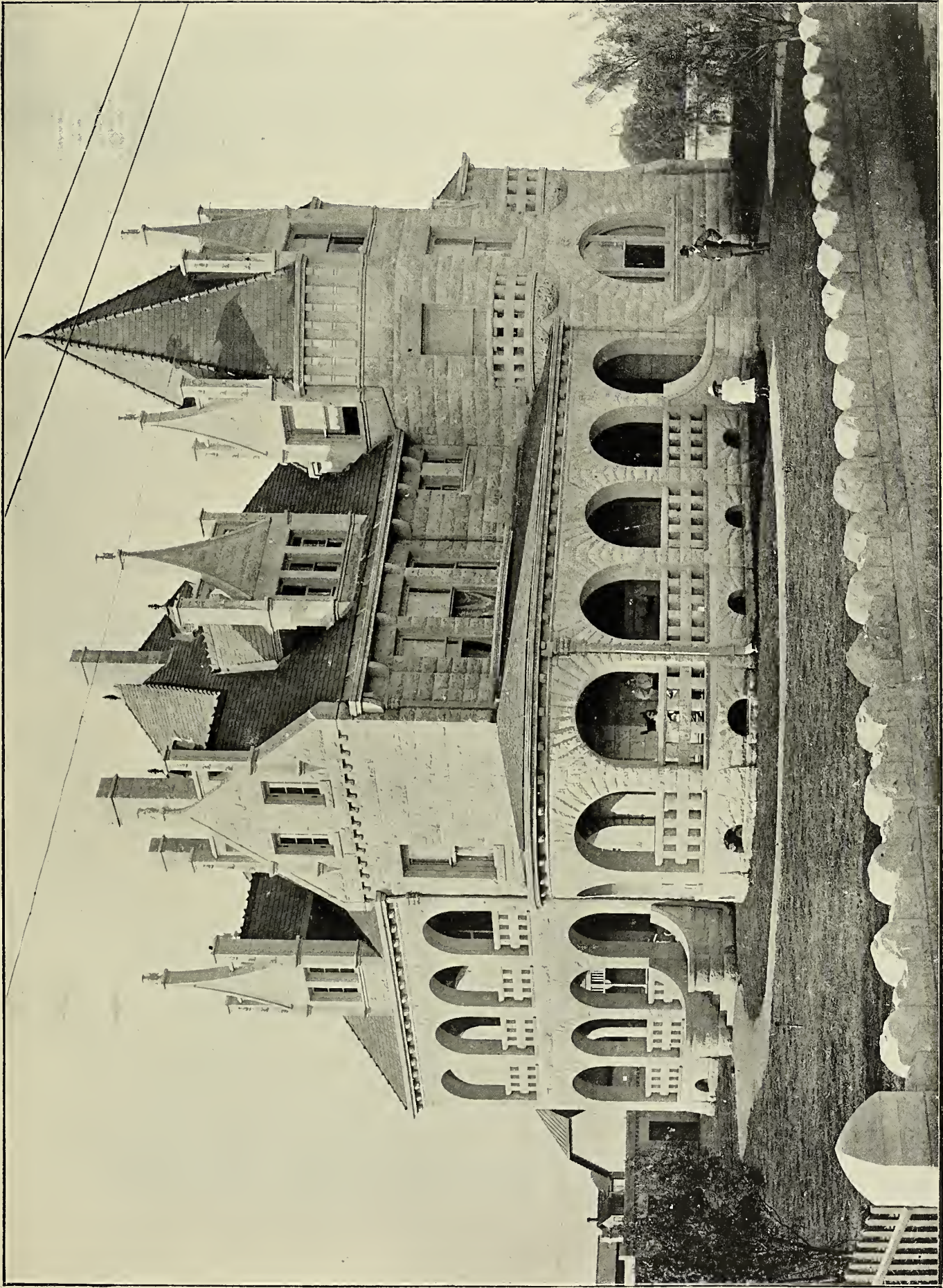
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THE INLAND ARCHITECT AND NEWS RECORD

Vol. XXVII.

MARCH, 1896.

No. 2



A Monthly Journal Devoted to
ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
19 Tribune Building, Chicago, Ill.

L. MULLER, Jr., Manager. ROBERT CRAIK MCLEAN, Editor.

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), \$1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

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Necessity and Wisdom of the Aldrich Bill.

The failure of the McKaig bill to pass the Senate in the LIII Congress has necessitated the formulation of another bill which has been presented by Mr. Aldrich, of Illinois, for passage. The text of the Aldrich bill is similar to that of the McKaig, retaining all of its valuable features with some slight additions, the necessity for which has developed during the year the matter has been before Congress. Sentiment in favor of such a bill has grown to an extent that it can hardly fail to pass when properly presented. It seems imperative that it should become a law immediately for other than the general reasons which make such a law advisable. The agitation for a special architect in private practice to design the new government building at Chicago has led to similar movements by other cities. That in behalf of the Chicago building has passed, and it is probable that a Chicago architect (Henry Ives Cobb) will accept the appointment which has been offered him. Philadelphia has a bill before Congress upon which action has yet to be taken, and New York is also requesting a similar measure. These special requests are all directly in the line of the general tenor of the Aldrich bill, which, when passed, will give this much sought-for privilege to every city alike. It would also place the power of appointment in the hands of an expert committee and relieve congressmen and senators of the annoyance of listening to the demands of constituents in favor of the appointment of their friends. It would give a chance between several of the best architects in the country rather than the appointment of that one having the largest influence. So many general benefits are incorporated in the passage of the Aldrich bill, added to its similarity to the special bills now being urged, and the passage of which will lead to an endless procession from other cities, it would seem that congressmen and senators would see the great advantage of the immediate passage of the Aldrich bill. It has the same provisions for special appropriations to pay for skilled service in assisting the Supervising Architect, and in the case of the New York customhouse bill, even the same provision for a special commission is mentioned. In fact, the only difference between these bills for special cases and the Aldrich bill lies in their special character. If the legislators interested in these several bills would unite their efforts in the interest of the Aldrich bill rather than expend individual labor and interest in favor of local buildings, the entire subject would be settled at once and the work carried out under the best possible method. It is not necessary to speak of the system now in vogue, as the fact that the three largest cities in the country have indicated that the public has at last awakened to its absolute inefficiency should show the general demand for its abolition. It is almost fifteen years since the architectural press first pointed out the incompetency of the supervising architect's office of the Treasury Department and suggested changes that would give to the country better, and more artistic buildings, and the American Architects has constantly labored to secure the passage of a law that would make the architectural service of the country available to the government, and should now unite in favor of its immediate

THE MODERN OFFICE BUILDING.

BY BARR FERREE.

PART II.

THE structure of a foundation is determined by what it is to carry. While we build our buildings up from the foundations, their engineering begins with a consideration of the loads to which they are to be subjected — the strains and stresses. The weight of the building being calculated and fixed, the next step — though the first in actual construction — is the determination of the form of the foundations.

The nature of the foundation of a high building depends on the weights of the structure, the nature of the soil, the nature of the adjoining edifices and their foundations, and economy or cost. Economy, which usually comes first in mechanical operations, is the least important of the conditions, since, as the object of a foundation is to carry its building, no economical arrangement can be employed that does not recognize this fact. The adaptability of the building to its foundation need not be considered, since any sort of a steel frame can, in practice, be applied to any sort of a foundation.

The foundation will, to a great extent, depend upon the soil upon which it is built. The most desirable are those built directly upon rock; but modern engineering is independent of the nature of the soil, though whether this be rock, clay, sand or gravel will largely determine what sort of foundation is to be laid. For present purposes this aspect of the question may be neglected, and the foundations considered with reference to their structure only.

The foundations of high buildings may be divided broadly into two classes: continuous and isolated.

Continuous foundations, as their name implies, are solid, uninterrupted walls, carried wholly or in part around the building. They may rest (1) on earth or rock; (2) on piles; or (3) on beds of concrete.

A continuous foundation on earth simply requires that the soil shall be of sufficient density to support the weight that will be applied to it through the foundations. Rock requires to be cut away at the surface, and any imperfect or decaying strata got rid of.

A continuous foundation on piles is a type not much used in the largest modern buildings. The Standard Oil building, New York, is a good example of this kind of foundation. A similar foundation supports the Chamber of Commerce in Boston; but the piles are practically driven in groups or piers, the foundations being formed of large, rectangular sections, connected by short, narrow pieces. The interior foundations rest on true isolated piers.

Continuous foundations on beds of concrete are not frequently built. A recent example is furnished by the New York Commercial buildings (Broadway and Waverly place), where a continuous brick wall is built directly on a bed of concrete. The foundation wall is strengthened by offsets, also resting on the concrete bed, and interrupted at alternate distances. Another method is to spread a bed of concrete upon the ground and to erect the bases of the columns upon it, as in the new Havemeyer building; or to support a bed of concrete on piles, and then place the column footings upon it, as in the American Tract Society's building, New York. This, however, is practically a pier foundation on an artificial base.

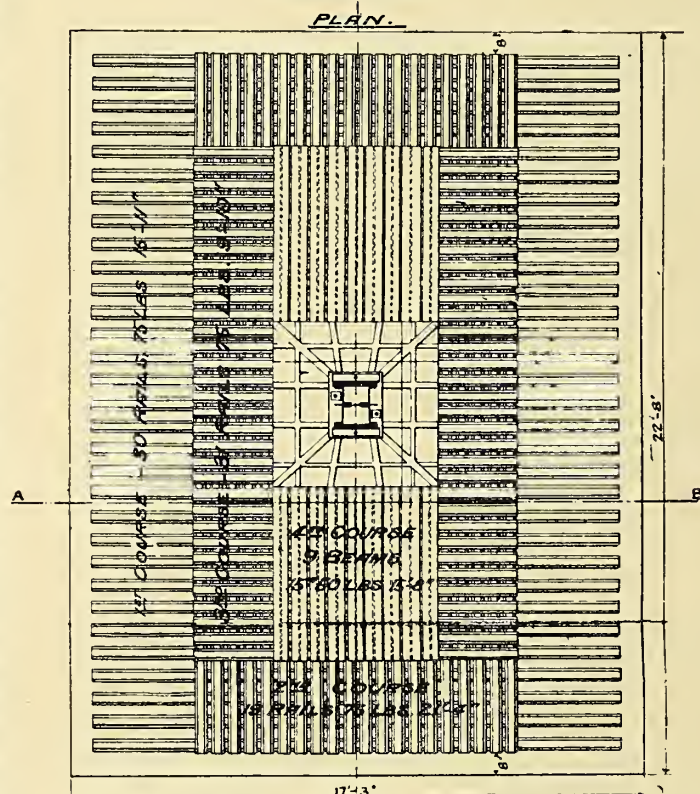
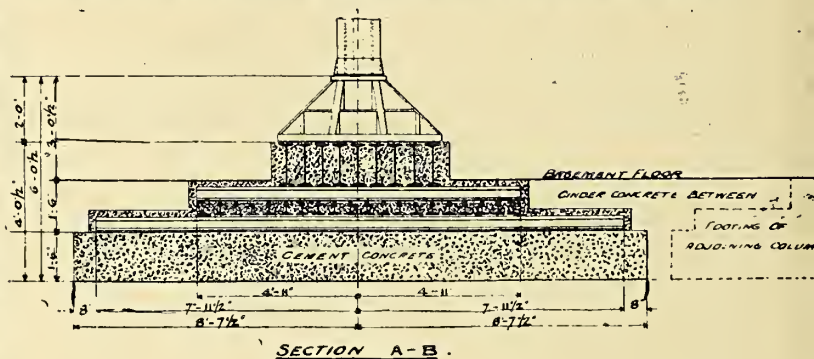
Modern building practice is chiefly concerned with isolated piers for high structures. This system was devised to distribute the heavy loads of high buildings on earth foundations over a wide area, in order to effect a uniform distribution of the weight in an economical manner. They are formed of (1) piles, (2) brick or concrete piers, (3) beams or rails, (4) caissons. Cantilever foundations have recently come into use, but as the cantilevers must be supported by one of the methods just named, that system may be neglected at present. The selection of one of these systems will depend, in great measure, upon the nature of the soil.

(1) Pile foundations for high buildings offer few features in construction that are not familiar to engineers. Their long-continued use renders them, in many respects, highly desirable foundations where the rock bed cannot be reached, and where there is a hard stratum to which they can be driven. Piles were almost universally employed prior to the introduction of the isolated pier system, but were somewhat neglected after steel rails began to be used. Recently their employment has been revived to a considerable extent, and in Chicago they have, in some instances, taken the place of the distinctive rail foundations. In 1889, piles were employed for the Wisconsin Central depot, and, subsequently, in the Schiller Theater, the Newberry Library, and Stock Exchange in Chicago. Special pains were taken with foundations of the Newberry Library, which were subjected to an elaborate series of tests. Good practice requires that the piles should be driven to rock or to hard pan. A proper penetration of the stratum is often sufficient, if the rock is too low to be reached on them to be permanently under water. Concrete piers are seldom employed in the best practice, on account of their poor economy of space. The Philadelphia building, supported by foundation of hard brick in concrete, connected by inverted T-piers, are embedded in the concrete on which the

footings rest. Some of the large piers of this foundation are of granite.

(3) The raft or rail foundations were devised to overcome the difficulty of supplying an adequate support to the great office buildings on the compressible soil, largely of clay, of Chicago. Since their introduction they have been found to have so many advantages that they have been used elsewhere. At first they consisted of old rails, then of I-beams for the upper course or courses; at present, I-beams especially manufactured for this purpose are employed. This type of foundation is relatively simple; a layer of concrete supports the layers of I-beams, all encased in concrete to protect the steel, and supporting a casting to which is applied the base of the column of the frame. It has many advantages.

It causes a great saving of space. A steel foundation, whose height between its bed of concrete and the bottom of the casting on which the column rests is 1 foot 8 inches, will be equivalent to a masonry foundation 7 feet high, when the latter is stepped out to transmit the load over the same area. This saving of space



Section and plan of a Chicago steel rail and beam foundation, as used in "The Fair" Building, Chicago.

amounts to the height of a basement, which is an item of more moment in Chicago than in New York, because the soil of Chicago does not offer opportunity for basements and sub-basements with ordinary construction. At the same time, the steel foundation is much lighter in weight than the corresponding foundation of stone, and this permits the addition of an extra story to the building without adding to the load on the soil. Steel foundations are more costly in themselves than stone ones, but their great economy in space, in weight, and in the time necessary for their erection, more than compensates for their increased price. To the other advantages must be added the final one that masonry foundations are often unfortunate for side walls, because they cannot be properly stepped out on both sides without encroaching on the adjacent lot.

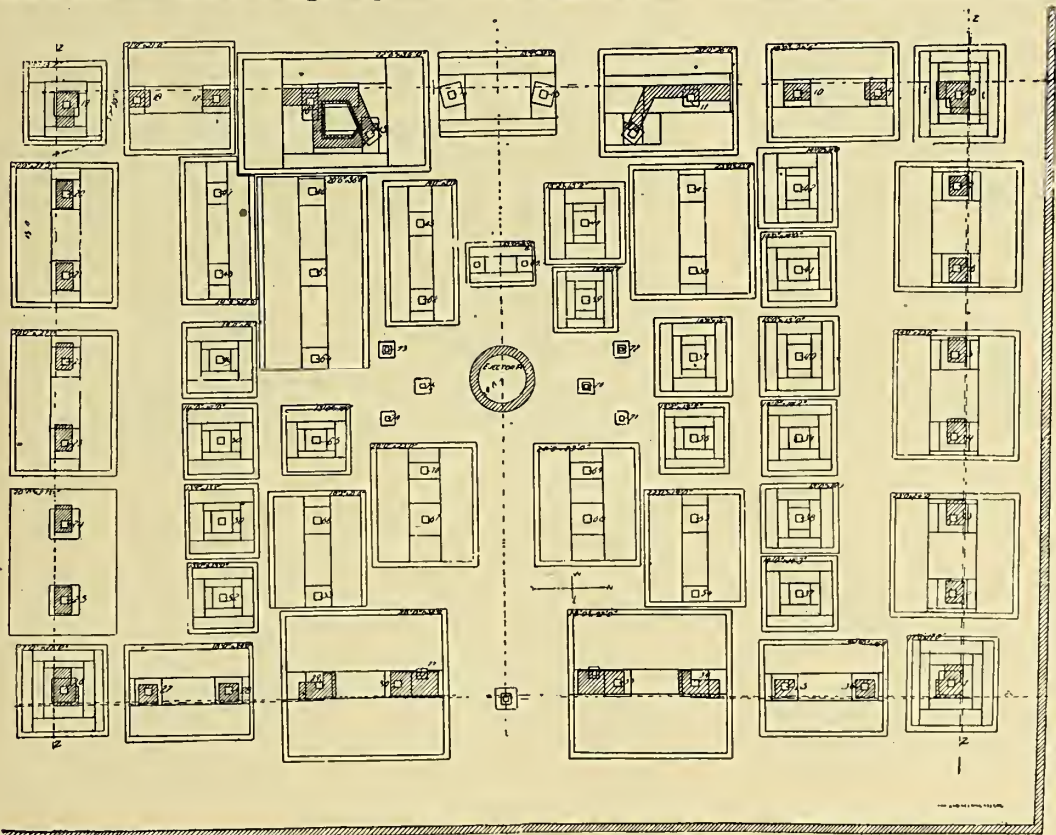
Examples.—Beam and rail footings, Chicago: The Fair, Manhattan, Isabella, The Rookery, Monadnock, Woman's Temple, Masonic Temple, Marshall Field, Rand-McNally, Reliance, Teutonic.

Beam foundations, Chicago: Leiter, Y. M. C. A., New York Life, Fort Dearborn, Tacoma, Pontiac, Caxton, New Monadnock, Venetian, Marquette, Steinway Hall, Atwood (with cantilevers),

Old Colony (with cantilevers). New York: New Havemeyer, Wilks. Pittsburg: Carnegie.

In the New Havemeyer, Wilks and Carnegie buildings, the concrete covers nearly the whole area of the foundations, and on this the I-beams of the footings are placed. In Chicago the con-

considerable number of types of foundations already considered do not fulfill every possible requirement. But those just noted are the usual types of office building foundations, and one or the other of them may be found in almost every great building. Special circumstances, however, call for special treatment, and some interesting examples of what may be termed special foundations may be briefly noted.



Foundation piers of the Masonic Temple, Chicago, Ill.

crete is spread in beds under the footings, practically covering the area, but arranged in definite shapes and sizes.

(4) While the raft system has been found practically sufficient to carry the heaviest buildings of Chicago, it has been thought desirable, by some engineers and architects, to carry the foundations down to the rock level. For this purpose, caissons, sunk by pneumatic or hydraulic processes, have come into use. Local circumstances will determine the process of sinking them. As foundations, they consist of circular, rectangular, or variously shaped cylinders or inclosures of sheet metal, filled with concrete and brick. These are covered with a proper cap, to which is applied the casting for the base of the columns. They are, in fact, simple columns or piers of masonry, which carry the weight of the building to the rock below. Examples of this type of foundation are found in the Manhattan, the American Surety and Johnston buildings in New York, and in the new addition to the Standard Oil building in the same city.

Where it is possible to build directly upon the building line, and the shape and size of the site permit the structure to be carried directly upon foundations so placed, the engineer has no other course to pursue than to apply his frame directly to them. But it is not always possible to get the foundations directly upon the building line; other structures may be so closely built upon it that their safety would be imperiled by sinking foundations for a new edifice; or other local circumstances may call for special treatment.

An obvious device for transferring the load from an impossible position to one where it may be safely located, is the cantilever. In New York, it has been employed in the new addition to the Western Union building, to transfer a load from one corner to a more secure footing. In Chicago, it has been used in the Manhattan and the Rand-McNally buildings, because heavy machinery in the basements of the adjoining structures could not be moved to permit the introduction of new party-footings. More recent examples in the same city are supplied by the Atwood and the Old Colony buildings. In the former the north and west walls are carried on cantilevers; in the latter, the south wall. In New York a part of one wall of the American Tract Society's building is carried on cantilevers.

In all these instances only a portion of the building, as a corner or a single wall, is carried on the cantilevers. A much bolder innovation was to carry the weight of an entire building on them, as in the Manhattan building in New York. This structure has a frontage on Broadway of 67 feet, and is 119 feet deep to New Street on the north, and 125 feet on the south. Its height above Broadway is 242 feet, with a tower and dome, that make the total height, from curb to foot of flagstaff on the dome, 348 feet. A series of rectangular and circular caissons was sunk, some carrying two columns, some one. A cross section of the foundation shows four supports for the cantilever girders, and on these are applied the columns of the superstructure.

The problems that come before the constructive engineer in the high buildings are so varied and complicated that even the very

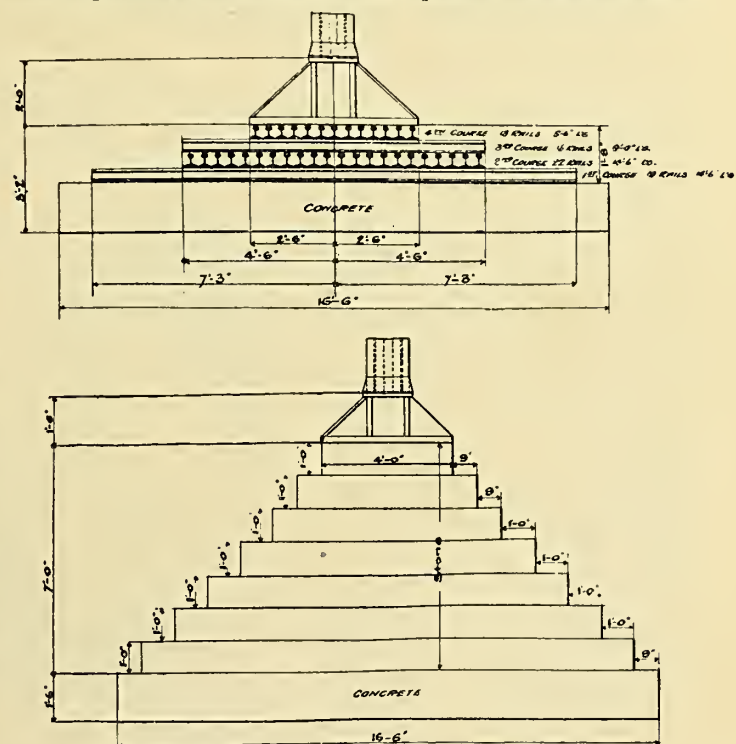
Cable Building, New York.—To obviate the intense vibrations of the cable machinery, a system of double foundations was devised. The inner columns of the superstructure rest on steel foundations of the usual type, applied to concrete inclosed within steel cylinders 6 feet deep and from 4 to 12 feet in diameter. A heavy layer of concrete covers the ground around these cylinders, and serves as a foundation for the machinery. The outer columns were built within the inclosing walls, on grillages formed of a single layer of steel beams, 24 feet above the beginning of the walls.

Marquette Building, Chicago.—The foundations of the west wall of this building were designed to carry an additional structure not yet built. The present load is, therefore, unequal and different from the final load. A special device was introduced to meet this condition in the column footing applied to the usual I-beam and concrete base, consisting of a cast-steel shoe resting on six plates, which, in turn, rest on two large iron castings, with a space between, in which is an hydraulic apparatus with four lifts. Should the wall give evidence of settling, the pressure can be applied and the thin plates between the castings removed, or additional ones inserted, as may be required.

New Havemeyer Building, New York (on site of old Herald Building).—A similar device of hydraulic lifts will be applied to this building, to provide for a possible heavy adjoining building in the future.

Fisher Building, Chicago.—In this structure an attempt was made to provide a device which would squeeze the water out of the

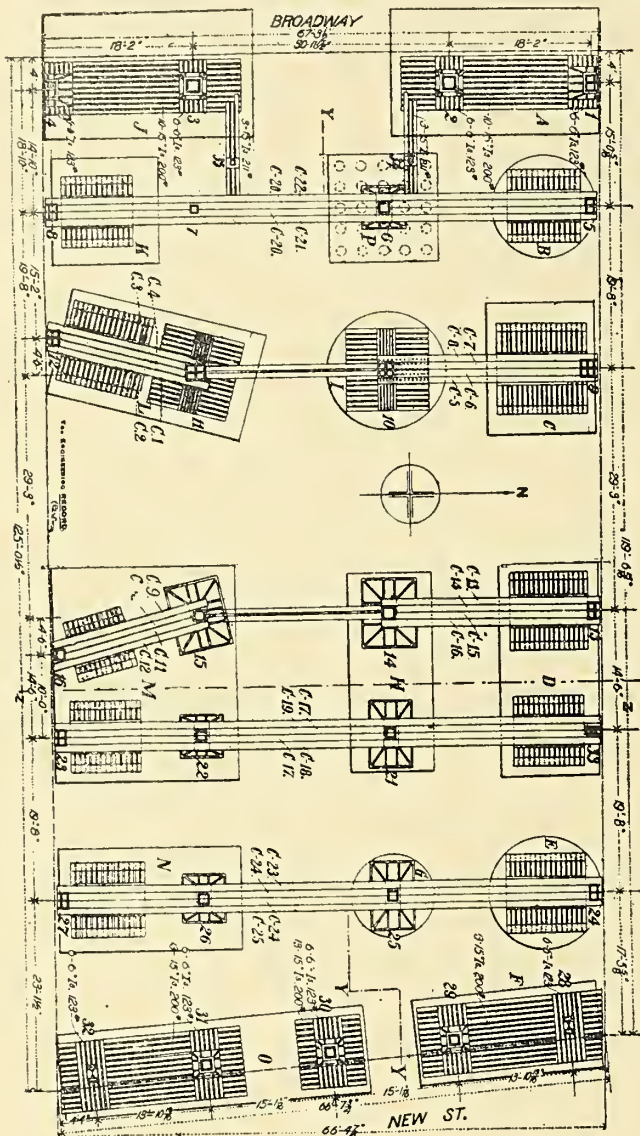
ground before the building was placed on it. In this way it was hoped to form a solid base which would overcome the settlement which follows from the squeezing of the water by the weight of a heavy building, and at the same time obtain a resisting stratum for the piles, sufficiently firm to render driving to hard pan unnecessary. Piles 25 to 27 feet in length were driven close together under each column. About 6 inches of concrete was packed close below the tops of the piles, and 18 inches placed on top. On this



Comparative section of steel and stone foundation.

was built a steel beam and concrete foundation, with a shoe of the usual form. This system has been employed by the same architects and engineers in the Mabley building, in Detroit.

Old Colony Building, Chicago.—This building offers a good type of a combination of a direct and cantilever foundation. The



Plan of foundation Manhattan Life Insurance Building, New York.

north wall is carried on cantilevers; the others are supported by columns that rest directly on concrete and beam foundations of the usual type. The distribution of the load was such that six columns were included on the single large concrete base supporting the footings of the cantilevers.

The typical modern office building consists of a cage of steel inclosed within stone and terra cotta or brick walls, the weights, strains and pressures being carried wholly on the metal frame, and by it transmitted to the foundations. This system is well defined in the Chicago building law:

"The term 'skeleton construction' shall apply to all buildings wherein all external and internal loads and strains are transmitted from the top of the building to the foundations by a skeleton or framework of metal. In such framework the beams and girders

shall be riveted to each other at their respective junction points. If pillars made of rolled iron or steel are used, their different parts shall be riveted to each other, and the beams and girders resting upon them shall have riveted connections to unite them with the pillars. . . . If buildings are made fireproof entirely, and have skeleton construction so designed that their inclosing walls do not carry the weight of floors or roof, then their walls may be reduced in thickness one-third from the thicknesses hereinafter provided for walls of buildings of the different classes, excepting only that no wall shall be less than 12 inches in thickness; and provided also, that wherever the weight of such walls rests upon beams or pillars, such beams or pillars must be strong enough in each story to carry the weight of the wall resting upon them without reliance upon the walls below them. But if walls of hollow tiles are used as filling between the members of the skeleton construction, they shall be of the full thickness specified for non-skeleton buildings."

All office buildings are not of this type, and practice varies among engineers to a much greater extent than is generally supposed. Some very large office buildings have been built of solid walls throughout; in others some or all of the walls are self-sustaining; in others, again, such self-sustaining walls are strengthened by steel girders, or the lower part of the wall will be self-sustaining and the upper parts be carried on girders, thus reducing the space and weight of the lower walls; in others, finally, and this is the typical skeleton construction, the walls are carried on the frame at each story.

Solid walls, without steel columns.—Monadnock, old part; Auditorium; The Rookery; Woman's Temple; Marshall Field; Owings building—all in Chicago.

Mixed walls, part solid, part veneer.—The New Monadnock in Chicago consists of two parts, exactly alike externally. One, the Katahdin building, has its exterior walls supported by masonry piers, seven feet thick at the level of the first floor; the other part, the Wachusett building, is of the pure skeleton type.

The Mail and Express building, New York, is an I-shaped structure, with an exceedingly narrow arm reaching out to Broadway. All the walls are self-sustaining, including the fronts on Broadway and Fulton street, except the side walls of the narrow arm, whose steel construction was necessitated by the fact that solid walls would have left no practical renting area between them.

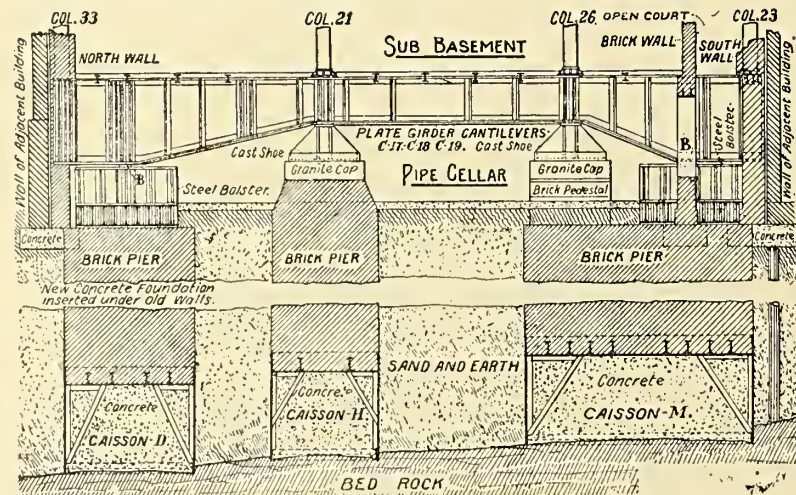
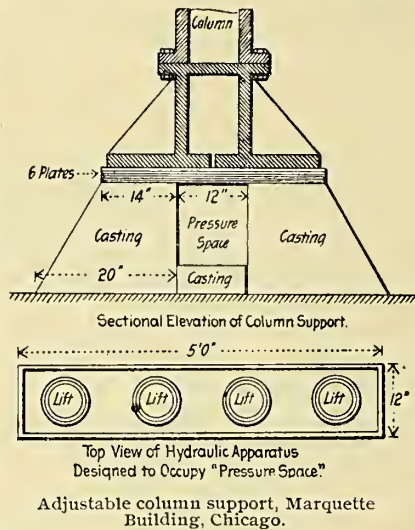
In the Manhattan building, New York, the walls are wholly, or in part, of the skeleton type, except the Broadway front. "The first story on Broadway, up to the springing of the arches of the windows, is of granite, the full thickness of the wall. Thence up to the first story cornice the thickness of the stone is equal to the reveals of the windows directly over the openings, the piers running up solid to the cornice, and being backed up over the windows with brickwork to the full thickness. Each stone is securely anchored and tied to the brickwork, and a thorough and efficient bond is maintained throughout the entire brickwork once in every five courses; and every course of brick is solidly filled in with cement. The intervening walls between piers on the north and south lines are supported on arches extending from pier to pier."

Self-sustaining walls, carrying themselves only, as in the Auditorium Annex and the Masonic Temple in Chicago.—In the last example it was found that the maximum pressure on brickwork, twelve tons per square foot, would be exceeded at the fifth story.

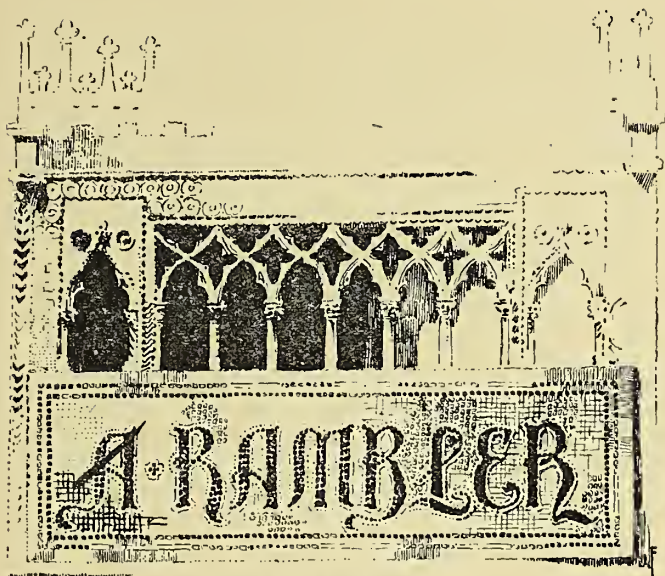
Brackets were, therefore, attached to the metal columns placed within the masonry piers, at the fifth and sixteenth floors, to carry the masonry work. The walls were thus only self-sustaining to the brackets of the fifth floor.

The World building, New York, offers a type peculiar to itself, which may be classified under this head. It consists of two parts, a shell and an interior. The walls are entirely free from the steel columns which carry the weights of the floors, and which stand free from the self-sustaining inclosing walls. In the Cortlandt Street Havemeyer building, New York, a later structure by the same architect, the walls are immensely thick piers of masonry containing a metal column placed near the inner surface, that carries the floor load.

Veneer walls, in which all the weights are carried on metal columns.—This is the typical Chicago system of high building construction, and the list of examples includes a large number of the more important office buildings of that city. Among these may be named the Home Insurance building, Manhattan, The Fair, Leiter, Y. M. C. A., Isabella, New York Life, Fort Dearborn, Tacoua, Pontiac, Caxton, Venetian, Old Colony, Champlain, Marquette, Stock Exchange, Great Northern Hotel, Ashland, Rand-McNally, Reliance, Title and Trust, Boyce, Hartford, Unity, Security, Columbus Memorial, Teutonic.



Section through foundations, Manhattan Life Insurance Building, New York.



BY F. W. FITZPATRICK.

AFTER sketching the above heading, it suddenly flashed upon me that, to the casual observer, or to the bicycle enthusiast, it might, perhaps, at first glance, convey the idea of a bicycle advertisement. There is, I believe, a "Rambler" make of that article that is widely advertised; but, dear reader, I hasten to assure you that it has nothing to do with that unstable motor. I despise the pesky things, and never had any dealings with their kind and never intend to. Why, I'd never dare look an honest saddle-horse in the face again should I so far fall from grace as to mount a "calf-developer." No, I mean by this heading of "Rambler," derived from the verb "to ramble," simply that I wander around the country a good deal, a sort of semi-respectable tramp, you know, and intend to occasionally fill up some space in THE INLAND ARCHITECT—that might, perhaps, be more profitably filled by advertising the other, the two-wheeled Rambler—with observations (sane and otherwise) and sketches jotted down by the wayside and other places.

Am not even a young Rambler—one of those youths filled up with enthusiasm for art, original ideas and space for opportunities and pie, who travel through the country wearing beautiful golf (pronounced "g-a-w-f," remember) stockings and a kodak, and who fill up roll after roll of film, and sketch-book after sketch-book with matter, with suggestions, details and dreams to be used in the bright days to come, when they, too, will immortalize themselves by monuments of everlasting granite! Alas, poor youths, what bitter disappointments lie across your paths!

I am an old Rambler, a crusty old fellow who has been in the architectural harness for nigh unto "t-wen-ty lon-g ye-ars" (spoken with the proper falsetto twang one gets in his dotage). I have had many hopes blighted and some realized—mostly the former; and if my ramblings are not always to your liking, kind reader, pray consider my age and infirmities, and cover them with that mantle of charity we so often read about and so very rarely see.

**

Reading the other day an article said to be the last contribution poor Stewardson made to architectural literature, I couldn't help but wonder, with him, where the profession is going to land. He says "... the increase in the number of students in law and medicine is small compared with their increase in architecture."

Taking up this thread, let us glance at a few figures. There are to-day in the United States 7,840 architects, practising under 5,218 firm-names (this includes those who are *practising* in all senses of the word). There are 546 firms in New York city and 420 in Chicago. These figures are as nearly correct as can be reached in a profession where no licenses are issued, or other means exist of keeping an accurate record of "boruings"; and they represent an increase of 210 per cent since 1876!

There are probably over 10,000 what might be termed students who, it is fair to assume, represent a like percentage of increase. This almost alarming growth is due, I think, partly to the fact that it is the easiest profession or genteel trade that a youngster can pick up.

Years ago, when a young chap was "articled" for a term of years and had to study and reach some degree of proficiency before being intrusted with a "job," the increase was not proportionately so great as now, when any little boy (and some little girls, by the way), showing the slightest aptitude for drawing impossible trees and bawdy-legged horses is proudly pointed out by papa as the architect of the family and rushed into some architect's office at the first opportunity. Papa is pleased with the budding talent that he has discovered. He, of course, aspires to a future for his progeny above that of the humble mechanic or clerk, and hails with delight a chance to shove his well-beloved into one of the learned professions, without having to expend large sums of money for his preparation therefor; why, the boy is expected to *earn* money the first year.

The student (?) will remain in that office two or three years, tracing and copying "standard" details; and is occasionally intrusted with designing a porch to some little cottage or other. Does he study? Why, no; he is learning the profession *practically*, and scorns mere books and theories; he has, as we have seen, some aptitude for drawing, so after awhile he makes a beautiful perspective, with figures traced from and style of rendering painfully and unrecognizably a la Gregg, or Ellis, or Lautrup!

By-and-by, some cousin or friend of his father's will build a house, and thinks he will encourage little Willie, and at the same time save three-quarters of the exorbitant and, after all, useless fee he would have to pay Mr. So-and-So, the architect. So little Willie graduates into our thickening ranks, is one of us, gets other jobs (from an all-too-confiding public, that thinks that an architect is an architect, so what's the difference), waxes fat, employs a good draftsman, one who has toyed with theories and has gone to school, perhaps; and, before you can say "Jack Robi-son," is at the head of his profession, and the leading light in his town.

In the larger cities there are small coteries of young men who do study, attend art classes, follow a regular course and top off with a year abroad, but their numbers can be expressed with painfully few ciphers. With such training as the younger generation deigns to receive today, and which the above description does not exaggerate, how, let me ask of the thinking ones, can we expect to maintain a high standard of ethics and attainments in our profession? The states interfere with and regulate the practice of medicine and law upon the assumption that these two can affect the health and rights of citizens. Why not architecture, too? A poorly-built structure is surely as great a menace to life and health as is an overdose of aqua something or other, and as for rights, what right has anyone to inflict upon us such monstrosities, sometimes called *desigus*, as we are compelled to look upon every day?

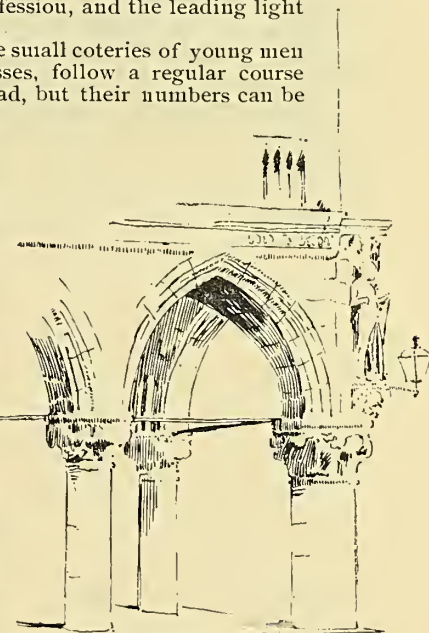
There have been spasmodic efforts made by a few of us to hedge ourselves about with some sort of a fence or wall; aye, even a moat, portcullis and bastions, and inner-guard passwords and other frill, but, so far, such efforts have been but wasted energies. I am not an extremist, but I do firmly believe that if we desire to maintain some semblance or claim to a *profession* and stay the march that is surely leading down hill, we ought to make it a little more difficult to enter our ranks; we ought to insist on slightly more preparation—barring out all prayer and fasting—than the

mere providing one's self with a sign upon which the magic affix "architect" appears after one's name!

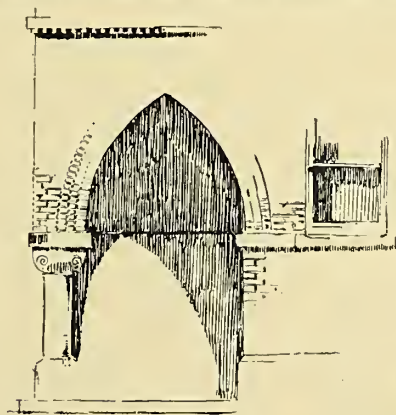
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You have often seen otherwise substantial enough buildings provided with a corner entrance through an arch something like the illustration. It represents one of the higher class *desigus* of the character I refer to. Others there are with a much flatter arch and even less brick or stone outside of it, and five or six heavy stones and perhaps a corner bay cocking out over the arch.

Of course, there is a tie-rod, and possibly the arch concealed therein; but do you not always feel like hurrying away from what seems to you must surely be the scene of a disaster sooner or later? Or, if particularly brave, do you not feel like leaning your back against the column and bracing your heels in a crack in the sidewalk until some means can be provided to prevent the bulge that will surely come? The other day I modestly asked an architect, who had just perpetrated one of these corner arches, where he had taken his motif. I gave the word the French accent and it flattered him, for he proudly produced a photograph of Giovanni Buon's addition to the ducal palace of Venice! Criticism was silenced; he had precedent to work upon; his work was a faithful copy of an old master's, hence must be classical in its purity! Kind reader, gaze upon one, then upon the other.



THE OLD.



THE NEW.

is only a blind, for there probably is an iron column and lintel concealed therein; but do you not always feel like hurrying away from what seems to you must surely be the scene of a disaster sooner or later? Or, if particularly brave, do you not feel like leaning your back against the column and bracing your heels in a crack in the sidewalk until some means can be provided to prevent the bulge that will surely come? The other day I modestly asked an architect, who had just perpetrated one of these corner arches, where he had taken his motif. I gave the word the French accent and it flattered him, for he proudly produced a photograph of Giovanni Buon's addition to the ducal palace of Venice! Criticism was silenced; he had precedent to work upon; his work was a faithful copy of an old master's, hence must be classical in its purity! Kind reader, gaze upon one, then upon the other.

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I see by the papers that Messrs. Harding & Gooch have had a dream, conceived, and have brought forth a design for a two-hundred

storied building in New York. Let us pray that it may never get further than the drafting-table stage. From an engineering point of view, the problem presents difficulties, but is not impossible of solution, but they ought to wait until aerial navigation is perfected



NOTRE DAME CHURCH AND NEW YORK LIFE BUILDING.

or an altruistic people inhabit our cities, for the difficulties in handling such hordes as these buildings would house seem, in our generation at least, insurmountable.

We smile at such dreams, some may even call them freaks; yet, it was not so many years ago that Buffington, of Minneapolis, patented his twenty-six storied steel-frame construction, and caused a broad smile to appear upon most of our faces; he was dubbed a crank and unmercifully gayed, but today twenty-six stories do not seem so very extraordinary. Who says but that in course of time we may, so to speak, acclimate ourselves to the rarefied atmosphere of a two-hundred storied affair? In the meantime, we must admit that it borders somewhat on the verge of freakiness.

Speaking of Buffington and his patent, reminds me that some time ago he instituted suits against several architects and owners of tall buildings for infringing upon his rights. Some of the leading lawyers, at that time, assured me that he had actionable grounds and would probably win in the end if he could command money and influence enough to stay in the fight. I wonder whatever came of the suits? We never hear them mentioned now. Patent invalid or money given out, I suppose.



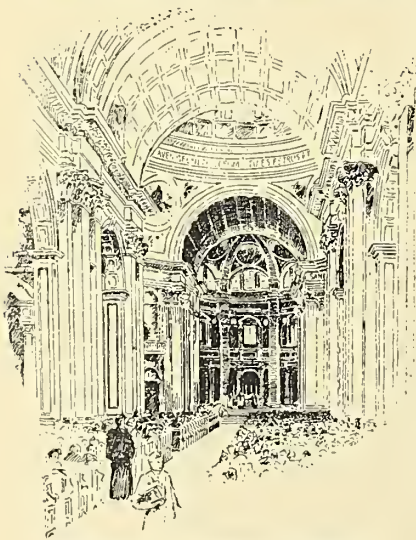
VICTOR BOURGEOU.

Some of their big office-buildings in New York are certainly very handsome and imposing externally; but, in the language of the street, "are not in it" for convenience of arrangement, light, and general excellence of plan with the same character of structures in Chicago. Their corridors are narrow, poorly lighted and circuitous—maze-like in their twistings, and almost necessitating a guide to pilot one to his destination.

New York may hug herself with the notion that she is the

home of the brightest stars in the architectural firmament if she so wishes to delude herself, but you Chicagoans have certainly learned how to plan buildings that, to my taste, at least, have no equals—except duplications—anywhere in the country.

Even staid old Canada has of late years erected some tall office buildings. I have just returned from an extended trip through that interesting country, and was surprised at its growth in that direction during the past five years. Toronto has several very creditable examples, and so has Montreal. Most of them, however, are the work of American architects. Such, for instance,



INTERIOR OF ST. PETER'S CATHEDRAL.

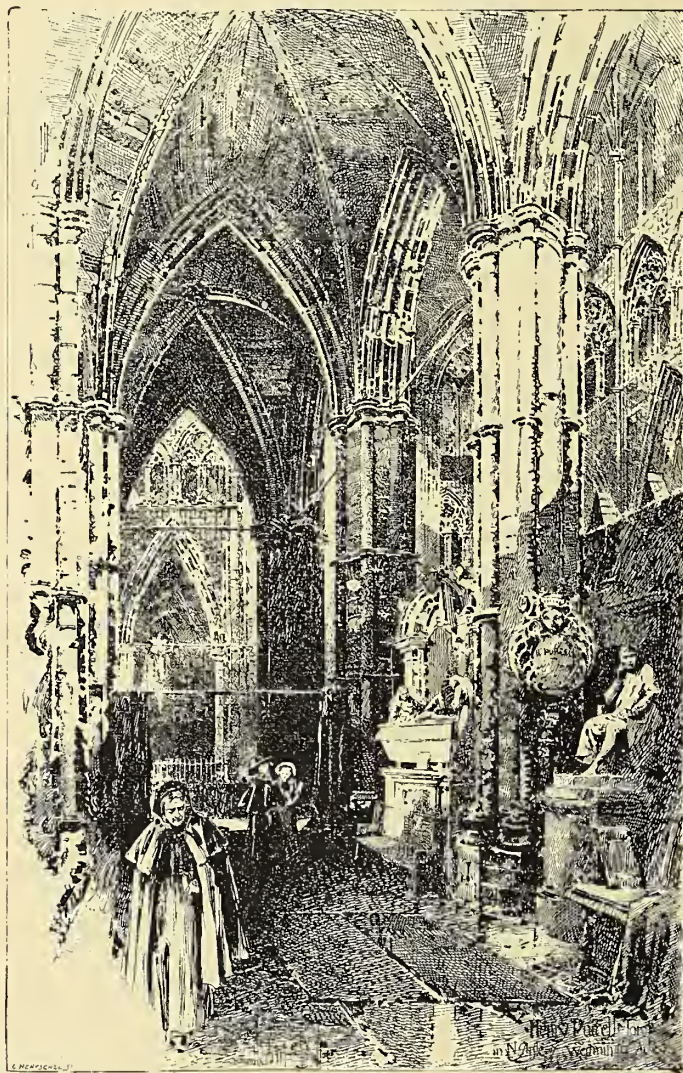
is the New York Life building in Montreal, by Babb, Cook & Willard, of New York. It is the most pretentious affair there, ex-

pensively built, fairly lighted and arranged, and quite elaborate in finish and material.

The Canadians are rather slow in adopting novelties, though. Their elevators are few and far between, and are looked at askance by many yet who would as soon attempt to walk upon the waters, as did Peter of old, as to trust their precious lives in one of those "bird-cages." I admit that with most of these elevators it would be a saving of time for a busy man to walk, even leisurely, up or down stairs.

I never lose an opportunity of visiting old Notre Dame Church in Montreal, particularly if I am there Sunday morning, in time for "grand mass." The church is impressive rather by its size than by its design, for it is somewhat heavy and lacks that daintiness of touch that one expects in its style. Its interior is garish in the extreme—blues, yellows, striped with green and red, a very medley of color. A cobalt blue vaulting, relieved by stars of gold, set in painfully regular order, yet the whole is subdued, softened by the quiet tones of the rose windows and skylights that admit most of the light. It is a vast interior, and the beauty of its altars, pulpit and organ goes far to repay one for any little disappointment he might feel with the remainder. These details are the work of Victor Bourgeau, and are designed in the most flamboyant of Gothic, laden with carving and statuary, and are certainly works of art. They are comparatively late additions to this very old church—1876, I believe, is their date.

This Victor Bourgeau also erected St. Peter's Cathedral—a small scab copy of St. Peter's at Rome—and also most of the Catholic



DRAWING BY HERBERT RAILTON.

churches, convents, schools, and other institutions in lower Canada. He was a most eccentric old gentleman and intensely loyal to Canada. The story is told of him that the Bishop of Montreal sent him to Rome to see St. Peter's, and to profit by the examples of the old masters. He remained in the Eternal City three days, then returned to Canada, disgusted with foreign stuff—"why," said he, "I saw nothing but that we *Canajens* could improve upon, and, besides, in Rome everything smelt so bad . . .!" He died three years ago, over eighty years of age, and for years occupied in Canada the position now held in this country by our reverend brother Dunham, of Burlington, Iowa—that of grand father or dean of the profession.

I said I liked to go to grand mass in old Notre Dame. Imagine, dear reader, that you know something of the beautiful symbolism of the service, the vestments worn by the celebrants, and the sacred vessels used in the mass. Imagine a chancel filled with nearly two hundred priests in gorgeous apparel, choristers in

somber black and altar boys in red. Picture to yourself the glitter of gold, and sparkle of gems, and flicker of numberless tapers upon the altar. Take an imaginary sniff at the sweet incense, then try and remember the most impressive music you ever heard, and multiply it by one hundred, and imagine it comes from a choir away up above you—seemingly in heaven—and that its strains are the combined effects of the grandest organ upon this continent, an orchestra of forty pieces, and something like four hundred trained male voices! Look about you and see eight thousand heads bowed in prayer, and you will appreciate my reasons for liking to be there, and you will likewise feel an undefinable, yet irresistible desire to pray—agnostic though you be. Why, it is spectacular grand opera, and has more attractions for me than has "Lohengrin," even with all the pomp and circumstance given it at Bayreuth.

* *

I read Mr. Adler's article on "Fireproof Building," in THE INLAND's last number, with a great deal of interest, and only regret that it was not published in some of the big dailies, where it would be read by the masses. My one consolation is that the daily press so frequently copies such matter from THE INLAND ARCHITECT, and may give that article the wide circulation it merits. It would do much to counteract the prejudice of the public against that class of building. It, the public, has so often been told by architects, unprincipled and otherwise, that such and such a building was fireproof, only to see it in a little while burn down or seriously damaged by fire, that the entire profession is in disrepute and looked upon as triflers with the truth.

Not long ago mill construction was called "fireproof." I have seen slow-burning construction foisted upon its owners and gravely accepted by them as "fireproof"; why, everything that has a steel beam in it is thought, by the layman, to represent a claim made by us that it cannot burn, a claim found by him, the layman, to be untenable, false, a delusion and a snare!

How much better it would be to frankly admit that the word "fireproof" is a misnomer; that all our efforts are in the direction of *fire-retarding* and *slow-burning* construction; that a really fireproof building must needs be in the center of a bare ten-acre field—if it is to have windows—and must be built solely of firebrick and concrete, tile floors, steel doors, mica "glass," and its furnishings of steel, its hangings of asbestos, lighted by day only and heated by some solar system, besides being inhabited with people of iron will, clothed in asbestos and mail, and who never indulge in alcoholic beverages or sulphurous language.

* *

It seems a common impression among us that the English draftsmen are exceedingly mechanical, stiff, in their drawing. I have heard it said by prejudiced Americans that an English draftsman never made a straight line otherwise than with a ruling-pen, and that all their drawings partook of the nature of ruling-pen, cast-iron, copper-bound affairs, nothing sketchy, picturesque or dainty.

The drawings of T. Raffles Davidson would seem to contradict this assertion, if no one else did that sort of thing; but for a really artistic, effective, dashy, yet accurate drawing in all its architectural detail, recommend me to the accompanying sketch, by Herbert Railton, of Henry Purcell's tomb in Westminster, that I find in a late *Illustrated London News*. Do we find anything strictly American in our journals that surpasses it?

DIRECTORS' MEETING, AMERICAN INSTITUTE OF ARCHITECTS.

AN adjourned meeting of the Board of Directors of the American Institute of Architects, was held in New York, February 14, 1896, the president, Mr. George B. Post, in the chair.

There were present, in addition to the president and secretary, Messrs. E. H. Kendall, Jeremiah O'Rourke, G. A. Frederick, Robert Stead, Warren R. Briggs, George C. Mason, Jr., Theo. C. Link, Frank Miles Day, C. F. Schweinfurth, and R. D. Andrews, of the Board, and R. W. Gibson, a former member of the Board.

The secretary reported that Dankmar Adler, of Chicago, had returned to professional practice after a slight interval, and it was decided that his name should be continued on the rolls, and that his membership be considered as not lapsed.

The Institute having received a request to appoint a member to a joint committee on Standard Rules for Electrical Construction and Operation, the president requested the secretary to act in that capacity.

Since the last meeting of the Board, notice has been received of the death of Mr. A. Page Brown, of San Francisco, who died January 21, from injuries received last October; of Mr. A. P. Cutting, of Worcester, Massachusetts, who died February 6, from extreme nervous exhaustion, at Los Angeles, California, where he had gone for his health, and of Rev. William H. Furness, D.D., the oldest of the honorary members of the Institute.

The president reported that there had been no meeting of the committee appointed to prepare a bill for securing plans for the erection of the public buildings of the United States, and no active work done except to ascertain the state of public opinion as to what can be done. A good deal of favorable opinion has been developed in Chicago and Philadelphia, and the present Committee on Public Buildings and Grounds is more favorable to a bill, taking the work of designing public buildings out of the office of the Supervising Architect, than was the committee of the last Congress. The senate committee is also considered to be

more favorable to such a bill. A former self-constituted committee had raised some \$250 to meet necessary expenses of their inquiries, and the present committee wished instructions. It was found that there were two committees in existence—the committee appointed January 9, 1894, apropos of the Buffalo Federal Building, and that appointed January 4, 1895, to draft a bill to regulate the designing of government buildings. After a full debate, Mr. Day offered the following resolutions, which were unanimously adopted:

Resolved, That the Chair appoint a committee of five, of which the president, Mr. George B. Post, shall be chairman, with five alternates, to secure the passage of the Aldrich Bill, or such bill of similar import as shall commend itself to the committee.

Resolved, That the said committee be empowered to raise, by voluntary subscriptions, funds for the said purpose.

Resolved, That all previous committees appointed for similar purposes be discharged.

The Chair appointed as members of the committee, in addition to himself as chairman, Messrs. Bruce Price, John M. Carrère, J. G. Hill, Alfred Stone; alternates, E. H. Kendall, H. J. Hardenbergh, Robert Stead, R. S. Peabody.

The president reported the efforts of the Chapters in the state of New York to procure the passage of a law licensing architects, and the secretary was requested to communicate with Mr. J. H. Pierce, of Elmira, and procure data on the subject and communicate to the architectural journals.

The secretary read a letter from the St. Louis Chapter, acknowledging the receipt of the vote of thanks passed by the St. Louis Chapter.

The secretary read the following report from the Washington Chapter, with a request that action be taken thereon:

The committee appointed by the Washington Chapter of the American Institute of Architects to report on the advantage of Washington as a place for the headquarters of the American Institute of Architects, submit the following:

1. Washington city, as the seat of the Government, is the proper place for the headquarters of all national associations.

2. The broadest field the American Institute of Architects has for producing good results lies in obtaining national legislation in relation to art and construction.

The question of government testing stations, which was advocated some years ago by the Washington Chapter, and indorsed by the convention of the Institute at Buffalo, as well as the Tarsney, McKaig and Aldrich bills in reference to the Supervising Architect's office, can be more efficiently advocated with the home office of the Institute located in the national capital.

3. Washington city is rapidly taking a prominent part among the cities of the country as an educational center; here the government has already collected a large number of valuable documents, books and material relating to history and the arts, as well as statuary in memory of the country's great men.

It seems that here should be collected and displayed for use the material belonging to the Institute. Here should be placed paintings, monuments or tablets in memory of architects who have accomplished enough to be worthy of having their names honored.

It is in this city that the people of this and foreign countries expect to see and study such subjects.

4. The government could give aid in the establishment of an architectural museum in this city when it would not in any other city of the country. Through consuls and gifts from foreign governments, as well as appropriations, a museum could be started here, under the auspices of the Institute, that would soon surpass any similar collection in the country.

5. If the Institute desires to erect its own building, a site centrally located could be bought in this city at less cost than in any other city of the same magnitude. A location opposite one of the government reservations would allow for more artistic treatment than would probably be available on sites that could be obtained at reasonable cost in other cities.

6. If it is not considered desirable to erect a building at the present time, two institutions in this city will assign rooms to the Institute.

The Corcoran Gallery of Art will, upon formal application, give the Institute quarters in their new building on Seventeenth street and New York avenue. One of a group consisting of the President's house, Treasury, War, State and Navy Department buildings, a building overlooking the Mall, centrally located and in every way suitable for the purpose.

7. The Smithsonian Institution will form an association with the American Institute of Architects similar to the one they now have with the American Historical Association.

The charter of the Institute in this case must be modified on the lines indicated in the charter of the American Historical Association, a copy of which is attached to this report.

The Institute in this case would obtain rooms for the display of books, photographs and other matter pertaining to the society, and have their proceedings printed by the government free of expense.

In this way the proceedings of the Institute could be more fully illustrated, and in them could be published measured drawings of some of the older buildings and drawings of merit as they are presented.

This would open a wide field of usefulness for the American Institute of Architects.

We submit this report with the request that the Institute be urged by the Chapter to make Washington city its permanent headquarters, and accept the offer of either the Corcoran Gallery of Art or the Smithsonian Institution.

(Signed)

ROBERT STEAD,

GLENN BROWN,

Committee.

Approved by the Washington Chapter with the request that the Institute act upon the report of the committee.

(Signed)

ROBERT STEAD, President W. C. A. I. A.

GLENN BROWN, Secretary W. C. A. I. A.

The president thought that the Institute did not realize its strength, and expressed the opinion that money could be raised to provide suitable quarters.

After a full discussion, it was voted that the report be referred to the committee appointed at the St. Louis convention, which committee shall have power to add to its membership, and that said committee be requested to report to the next meeting of the Board of Directors.

The Washington Chapter also presented a printed copy of a resolution passed at a meeting of the Chapter, held on Friday evening, February 7, in reference to the prominence given in the newspapers to Mr. Edward P. Casey, as architect of the Congressional Library Building. The report was received and ordered to be put on file, and Mr. R. D. Andrews and Mr. Frank Miles Day were appointed a committee to confer with Mr. Casey, and report to the Washington Chapter their findings in the matter.

Mr. A. H. Thorp's communication in regard to alterations in the schedule of charges was laid on the table, as the Board was not prepared to take the action asked for.

The proposal of I. Haas & Co. to publish a history of the Institute, together with photographs and biographical sketches of the officers and fellows of the same, and write-ups and photographs of prominent builders, to be paid for by said builders, was declined.

A communication of Mr. R. L. Corthell, in regard to an International Congress of Engineers and Architects, was placed on file.

A communication of Mr. B. H. Bell, in regard to a memorial to Mr. Hunt, was referred to the New York Chapter, with full power to represent the Institute in the matter.

A communication from Mr. A. E. Borie, in regard to a memorial to Mr. John Stewardson, was referred to the Philadelphia Chapter, with full power to represent the Institute in the matter.

The Board of Directors, in accordance with the powers vested in them, voted to elect Leopold Eidlitz, of New York, and George Keller, of Hartford, Fellows of the American Institute of Architects.

The applications of the following gentlemen were received, their drawings examined, and their names approved for submission to the Fellows of the Institute for election by letter ballot: George Henry Clemence, Worcester, Mass.; Leon E. Doszez, Washington, D. C.; Louis E. Stutz, Washington, D. C.; Will Sterling Hubbard, San Diego, Cal.

The Chair appointed Messrs. William C. Smith, of Nashville; George C. Mason, of Philadelphia, and Alfred Stone, a committee of arrangements for the Nashville convention to be held in October, 1896. Adjourned.

NEW SUPERVISING ARCHITECT'S OFFICE BILL.*

IN the House of Representatives, December 12, 1895, Mr. Aldrich introduced the following bill, which was read twice, referred to the Committee on Public Buildings and Grounds, and ordered to be printed:

A BILL, TO PROVIDE FOR THE SECURING OF PLANS AND FOR THE ERECTION OF THE PUBLIC BUILDINGS OF THE UNITED STATES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President, by and with the advice and consent of the Senate, shall appoint a commission on public architecture consisting of three architects of high scientific and artistic attainment and large practical experience, and two officers of the Engineer corps of the United States Army. If necessary, a separate appointment of any or all of three members of the commission who are architects may be made for each building under consideration, and members of the commission for one building may act upon other buildings. That the commission, under the general direction of the Secretary of the Treasury, shall discharge all the administrative duties relating to the procuring of designs and the appointing of architects for all buildings hereafter erected by the Government of the United States.

Sec. 2. That the Secretary of the Treasury shall be the president of the commission ex officio, and the Supervising Architect of the Treasury Department shall be a member of the commission ex officio. In the absence of the president of the commission one of the members shall be elected as chairman by ballot, and he shall preside at the meetings and perform such other duties as the rules of the commission may prescribe; and the Supervising Architect of the Treasury shall act as secretary of the commission.

Sec. 3. That the Secretary of the Treasury shall convene the commission whenever in his judgment the exigencies of the service require it.

Sec. 4. That the commission shall adopt rules and regulations governing competition in the procuring of designs and for the government of its meetings and the general performance of its duties. The members of the commission shall be paid their actual expenses and subsistence and a per diem allowance of ten dollars while actually engaged in the performance of their official duties, but no per diem allowance or salary shall be allowed to any civil or military officer on account of his being employed on the commission, but his actual traveling expenses and subsistence shall be paid while engaged thereon.

Sec. 5. That in case the limit of cost provided by law is one hundred thousand dollars or over, the commission shall select by ballot, for each building, five architects to prepare designs in competition; in case the limit of cost is less than one hundred thousand dollars, the commission may, in its discretion, select by ballot an architect without competition. No architect shall be eligible for entering as a competitor, or for appointment, who has not had at least ten years' experience as an architect-in-chief, and unless he can satisfy the commission, through work already done by him, or otherwise, that he is competent to take charge of the economical construction of the building. The commission shall cause to be made and issued to competing architects surveys, schedules of requirements for the building, limitations of cost, and all facts which might control or influence the character of the required design. The commission shall specify the number and character of the drawings required, and fix a definite time for their completion. The Secretary of the Treasury, upon the recommendation of the commission, shall pay to each unsuccessful competitor, to reimburse him for expenses incurred in preparing the competitive drawings, the following amounts: For designs for buildings to cost not more than one hundred and fifty thousand dollars, the sum of one hundred and fifty dollars, and for each and every one hundred thousand dollars of the limit of cost of the

building above that amount, the additional sum of one hundred dollars; but in no case shall more than one thousand dollars be paid to any unsuccessful competitor.

Sec. 6. That the commission shall reject and return to the author any drawings which have failed to exactly comply with the requirements and regulations adopted by the commission for the competition, and no compensation for their preparation shall be paid, and the author thereof shall be debarred from all further participation in the competition. The commission shall carefully examine the drawings of each competitor in competition and shall select one design as the design of the proposed building, and shall recommend its author as the architect for that building and return forthwith all other drawings to their authors. The Secretary of the Treasury shall thereupon appoint the architect so recommended and he shall perform all the customary duties performed by an architect in private practice, namely: The making of all preliminary sketches, the modification of his designs to meet possible requirements of the commission, the preparation of a set of general working drawings to procure estimates; the preparation of a set of general details on a larger scale, a set of full-size drawings, for molded, carved, or ornamental work, and a set of all other original drawings and specifications required by the commission. He shall supervise the construction of the building, and no payment shall be made to any contractor until the certificate of the architect has been received by the Secretary of the Treasury that the work has been executed in conformity with the contract. He shall file a complete set of the construction drawings in the Treasury Department, from which all duplicates shall be made, which duplicates shall be paid for out of the appropriation for the building. The architect shall be paid for his services a fee of five per centum upon the total cost of the work and the usual traveling expenses. The expenses of the commission and the fees of the architect shall be paid by the Secretary of the Treasury out of the appropriation for the building in the erection of which they were incurred.

Sec. 7. That the Secretary of the Treasury, upon the recommendation of the commission, shall authorize the architect to employ a competent clerk of the works, at a salary to be established by the commission, and he shall be paid for his services out of the appropriation for the building.

Sec. 8. That the Supervising Architect of the Treasury Department, under the direction of the Secretary of the Treasury, shall be the representative of the Government in all matters connected with the erection and completion of public buildings and the payment therefor. He shall receive proposals for the work, and, with the approval of the architect of the building, he shall award the contracts therefor. He shall perform all other duties that now pertain to his office except such duties as are vested by this Act in the architect of the building.

Sec. 9. That all Acts and parts of Acts inconsistent with this Act are hereby repealed.

OUR ILLUSTRATIONS.

Residence of T. T. Seelye.

Residence of John U. May. Franklin B. Meade, architect.

Detroit Wheelmen Clubhouse. Edward C. Van Leyen, architect.

Flat Building for John C. Morper, Chicago. W. L. Klewer, architect.

Details from Guaranty Building, Buffalo. Louis H. Sullivan, architect, Chicago.

Residence of John H. Brown. Alfred Hoyt Granger, architect, Cleveland, Ohio.

An Inglenook, T-Square Club. First mention, David Knickerbocker Boyd, Philadelphia.

Photogravure Plate: Residence of Edward C. Potter, Chicago. Charles S. Frost, architect.

Appraiser's Warehouse, New York. William Martin Aiken, U. S. Supervising Architect.

Law Library, Interior View, St. Paul, Minnesota. William Martin Aiken, U. S. Supervising Architect.

Stair and Elevator Hall, Milwaukee, Wisconsin. William Martin Aiken, U. S. Supervising Architect.

Apartment Building for L. G. Wells, Chicago. J. H. Dinwiddie and Robert T. Newberry, architects.

The proposed New Market Building of St. Louis, Missouri. Louis Mullgardt, architect. It is planned to cover four blocks in the heart of the city.

Towers as follows: For Post Office, Customhouse and Court-house, Milwaukee, Wisconsin; for Courthouse and Post Office at Savannah, Georgia; for Post Office at Washington, D. C.; William Martin Aiken, U. S. Supervising Architect.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Entrance, Chicago Athletic Club. Henry Ives Cobb, architect. View in Rotunda, Marquette Building, Chicago. Holabird & Roche, architects.

Parlor in Residence of Mrs. J. C. Coonley, Chicago. Pond & Pond, architects; also Stair-Hall.

View in Hall, Second Floor, New York Life Building, Chicago. Jenney & Mundie, architects.

View in Residence of J. C. Brocklebank, North Edgewater, Chicago. George W. Maher, architect.

Interior View, Remodeled Entrance of Continental Bank Building, Chicago. Patton & Fisher, architects.

*54th Congress, First Session, H. R. 1470.

OBITUARY.

CHARLES A. KESSELL.

Among the charter members of the Chicago Architectural Sketch Club when organized eleven years ago, none were more active in directing its course than Charles A. Kessell, and his death on March 4 was a shock to a large number of architects and draftsmen, particularly those with whom he has associated for the past decade. He held the office of treasurer of the club for two years, and was afterward elected its president. During the construction of the buildings for the Columbian Exposition he was employed in the office of Director of Works, and had charge of the construction drawings of the Administration and the Fisheries buildings, the Choral Hall, and other minor works. As his constructive talents were of a high order, the same could be said of his artistic ability, his water colors always ranking high in club exhibitions, while those of landscapes, etc., particularly those executed during a visit to Norway some years ago, showed exceptional skill with the brush. In manner he was quiet, and in purpose energetic and persevering, and although but forty-three years of age, his studious life had made him a master of his profession. He was born in Norway, but came to Chicago when one year old. Two sisters mourn him, and the profession, of which he was so honored a member, will miss his presence at those gatherings in which he was a genial and cordial participant.

MOSAICS.

CHARLTON, GILBERT & DEMAR, architects, of Marquette, Michigan, have opened a branch office in the First National Bank building, Milwaukee, Wisconsin.

HE looked over the plans for the new building that he intended to have erected and shook his head.

"What's the matter?" asked the architect.

"Too elaborate," was the reply; "too much unnecessary fancy work to suit me."

"No more than is usual on first-class buildings," protested the architect. "What would you have left off?"

"The ornamental work at the top."

"But, my dear sir," protested the architect, "that is quite the thing now. We make the buildings plain, except at the bottom and the top."

"Well," returned the capitalist decidedly, "it's all right to have a little ornamentation for the first story, but I object to paying for artwork for the angels. We'll have the top plain."

THE Colliery Engineer Company, of Scranton, Pennsylvania, have issued the first number of a new paper called *Home Study*, which is intended to furnish elementary instruction in the industrial sciences to students and to readers of the technical press who desire a better knowledge of arithmetic, geometry, trigonometry and the principles of physics and drawing. The initial number of *Home Study* is certainly excellent, and if the same high standard is maintained there can be but one result—success. The subjects treated include mechanical, steam and electrical engineering, architecture, plumbing, heating and ventilation, mining engineering, drawing, civil engineering, geometry and popular science. The writers are representative instructors in their respective lines, and seem to have hit the happy mean of popular interest without descending to mere dilettanteism.

ASSOCIATION NOTES.

CLEVELAND ARCHITECTURAL CLUB.

The first annual exhibition of the Cleveland Architectural Club was held from February 10 to 15, 1896, inclusive, in the Garfield building. The exhibition was a success from every standpoint, from the large attendance financially, and from the kindly treatment given by the local press.

Exhibits were made by the P. D. Club, Boston; Chicago Architectural Club, Grand Rapids Architectural Club, St. Louis Architectural Club, Sketch Club of New York, the Mural Painters, the T-Square Club of Philadelphia, the Schools of Architecture of the University of Pennsylvania, Columbia College, and Harvard University, and by many of the architects of all the principal cities of the country.

The club wishes to take this opportunity to thank all who contributed to the success of the exhibition.

A catalogue containing about sixty reproductions was issued and has been very favorably commented upon.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT,
CHICAGO, March 10, 1896.

The two months just closed have developed a few encouraging indications for the coming ten months. It is now clear that there will be a larger volume of business in 1896 than in 1895. As to prices, the seemingly warranted inference is that they will be somewhat more remunerative than last year. The prospects are encouraging for a general expansion of business and on a more satisfactory basis. This is undeniably true in regard to general construction. Preparations have been made for very large and continuous building operations in all large cities and in scores of smaller cities and towns where records are kept. One prominent feature this year will be office building in

cities. The requirements in this direction have recently assumed larger proportions than ever. The investments are exceptionally remunerative, as a rule. Besides this, trolley line construction has opened up urban and suburban opportunities for construction that means much for building interests. An impulse has been given to house building that will expand construction in that direction, possibly for years to come. The decline in cost of most material exercises a favorable influence. Facilities for an increased production of building material are being regularly added. Competition in every branch has reached an acute stage. Enormous operations only are profitable. With cheap prices and narrow margins, however, have come increased opportunities. The workers for wages, as savings bank returns and building and loan association statistics demonstrate, are widening the margin between them and want, and hence it is that there is such a strong setting in of house ownership. Lumber has not weakened perceptibly, but planing mill products are perhaps at their lowest known level. House furnishment is cheap. All the factors in greater house building are on the side of greater enterprise. The wealth producing capacity in some respects is better and greater than in the phenomenal year of 1892. Then general and average individual indebtedness was greater. Since then liquidation and economy have gone hand in hand, with competition in the saddle to drive. As a result the people find themselves relatively much better off, cost of production and living reduced, and earnings, if not relatively increased, at least not less in purchasing power. The political conditions prevailing unavoidably affect business. Higher tariffs, to the limit of yielding a government-supporting revenue, are probable a year hence. Silver legislation favorable to its restitution is not immediate, but it is the burning fagot that will singe the noses of the contending dogs in the fight. The American people have an abundance of sound sense and they can be trusted to do pretty nearly right.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Buffalo, N. Y.—The designs of William H. Archer, architect, have been accepted from among all submitted for the new building for the Working Boys' Home. The lot is of peculiar shape and required great study to utilize every inch of space. The building will have a frontage of 98 feet on Niagara square and Genesee street, and runs back 134 feet to Guthrie alley, and 48 feet of frontage in rear. The new building will be four stories high and basement, and will be constructed of pressed brick, with Medina stone and terra cotta trimmings, and when completed will present a handsome appearance. The basement, which is 11 feet high, contains bowling alleys, billiard, gymnasium and bath rooms. In the rear, kitchen, store rooms, pastry room, laundry, steam drying room and refrigerator, with two flights of stairs to first floor. On the first floor is located the committee rooms, reception room, library, office, association room and parlor. In the rear are the priests', sisters' and boys' dining rooms, and serving room with dumb waiter and stairs to kitchen. The hall on this floor is lighted by large dome in ceiling, giving a handsome effect. The second floor is reached by grand and rear staircases. Rooms on this floor are superintendent's apartments, reading, school, class and recitation rooms, and lecture hall to seat 300. Third floor contains eight rooms for use of sisters, with an infirmary for boys, and twelve private bedrooms. The chapel, with 300 sittings, is located on this floor. On the fourth floor are dormitories and private rooms, the latter for the boys who for their good conduct merit them. Father Walsh will be able to accommodate 100 boys in his new building, which will be a credit to the city and a decided improvement to Niagara square; cost about \$50,000.

Chicago, Ill.—Architect George W. Maher: For Judge Brentano, at North Edgewater, a handsome three-story residence, 58 by 70 feet in size; it will be of pressed brick with stone trimmings, have all hardwood finish, the best of modern open sanitary plumbing, gas and electric fixtures, gas ranges and fireplaces, specially designed mantels, sideboards and consoles, electric light, steam heating, etc. For Mrs. S. R. Molloy, a two-story residence, to be erected at Kenilworth; it will be of frame construction, with stone basement, hardwood interior finished in quarter-sawn oak, have the best of sanitary improvements, gas and electric fixtures, mantels, sideboards, etc. For George E. Arndt, a two-story residence, 34 feet front and 47 feet deep, to be erected at North Edgewater; it will be of brick veneer, have oak interior finish, the best of modern plumbing, gas and electric fixtures, mantels, sideboards, laundry fixtures, steam heating. For J. L. Cochrane, a two-story residence of very handsome design in the Old Colonial style of architecture; size 74 by 70 feet; to be erected at Sheridan Drive; it will be of pressed brick and stone with Spanish tile roof, have elegant hardwood finish, special mantels, sideboards and consoles, the best of open nickel-plated plumbing, gas ranges and fireplaces, electric light and steam heating. Also for same owner at Sheridan Drive, a fine residence 66 feet front and 70 feet deep; it will be constructed of boulders and pressed brick, and have tile roof, elegant hardwood finish, mantels, sideboards, consoles, the best of open nickel-plated plumbing, gas and electric fixtures, laundry fixtures, gas ranges, and fireplaces, hot-water heating, etc. For Mr. Jordan, a two-story, basement and attic residence, 32 by 50 feet in size; to be erected at Edgewater; it will be of stone basement and frame superstructure, have all hardwood finish, the best of modern sanitary conveniences, mantels, sideboards, consoles, gas and electric fixtures, electric bells, speaking tubes, hot-water heating. For A. D. Sheridan, a two-story residence, 44 by 35 feet in size; to be erected at Edgewater; it will be of very handsome design, in frame and plaster construction, have hardwood interior, mantels, consoles and sideboards, gas and electric fixtures, electric bells and speaking tubes, heating, etc. Also made plans for three three-story residences to be erected at Edgewater, for J. L. Cochrane; frame, stone basements, hardwood finish, mantels, gas and electric fixtures, furnaces, etc. For E. G. Barrett, a two-story, basement and attic residence, 65 by 40 feet in size; to be erected at Kenilworth; to be of frame with stone basement, have hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, electric light, hot-water heating, electric bells, speaking tubes, laundry fixtures. Also made plans for interior finish for residence at Omaha, Nebraska, for F. H. Davis; mantels, sideboards, consoles, hardwood cabinet finish, etc.

Architect J. W. Ackerman: For F. J. Howes, a two-story, basement and attic residence, 24 by 50 feet in size; to be built at Edgewater; it will be of frame with brick basement, have hardwood interior, mantels and sideboards, gas and electric fixtures, heating, etc.

Architects Wilson & Marshall: For Mrs. Vincent, a three-story flat, 25 by 86 feet in size; to be erected at Grand boulevard, near Forty-second street; it will be of buff Bedford stone front, have interior finished in oak, mantels, sideboards, gas and electric fixtures, the modern sanitary improvements, heating, etc. For H. R. Wilson, two handsome three-story residences, to be erected at Grand boulevard near Fifth street; they will have fifty feet frontage, be constructed of buff pressed brick with Bedford stone trimmings, have elegant hardwood interior finish, special mantels, sideboards and consoles, gas and electric fixtures, all open nickel-plated plumbing, gas ranges and fireplaces, electric bells, speaking tubes, etc.; they will be in the Old Colonial style of architecture and cost \$16,000 each. Same architects designed a four-story and basement apartment house, 50 by 50 feet in size; to be erected at Fortieth street and Lake avenue, for H. M. Wilcox; it will have a buff Bedford stone front, interior to be finished in birch, mahogany and quarter-

sawed oak, have fine mantels, consoles and sideboards, the best of modern open plumbing, gas and electric fixtures, electric bells, speaking tubes, electric light, mosaic and tile work and marble wainscoting, heating, etc.; cost \$20,000.

Architect Alfred Smith: Making plans for St. Augustine's Episcopal Church, 25 by 60 feet in size; to be erected at Wilmette; it will be of frame construction on a brick basement, have gas fixtures, oak finish, stained glass windows, pews, furnace, etc.

Architects D. E. & O. H. Postle: For E. Smethe, a four-story warehouse, 40 by 90 feet in size; to be erected at 129 to 131 West Randolph street; it will be of pressed brick front, with trimmings of enameled terra cotta.

Architects Hessenmueller & Meldahl: For M. Taggart, a three-story and basement apartment house, 75 by 90 feet in size; to be erected at the northwest corner of Sixty-third street and Drexel avenue; the first story will be of buff Bedford stone and the remainder will be of pressed brick with Bedford stone trimmings, the interior to be finished in quarter-sawn oak and Georgia pine, have the best of open plumbing, gas and electric fixtures, electric light, gas ranges and fireplaces, steam heating, etc.; cost about \$45,000.

Architects Lapointe & Hickok: For Adam Darrie, a two-story flat building, 22 by 70 feet in size; to be built at 306 Congress street; it will be of pressed brick and stone front, have plumbing, etc. For John Martin, a two-story store and flat building, 24 by 54 feet in size; to be built at Diversey avenue near Western avenue; it will be of pressed brick and stone front, have oak finish, mantels, sideboards, gas fixtures. For James Foley, a three-story apartment house, 50 by 85 feet in size; to be erected at 42 and 44 Plum street; it will be of stone and pressed brick front, have oak and Georgia pine finish, mantels, sideboards, gas fixtures, gas ranges and fireplaces, mosaic floor, tile bathrooms, electric bells, speaking tubes, steam heating.

Architects Schroeder & Koster: For Jacob Russman, a two-story and basement flat building, 22 by 72 feet in size; to be built at Sixty-second and May streets; it will be of pressed brick and stone front, have oak and Georgia pine finish, mantels, sideboards, gas fixtures, open plumbing, heating, etc. For J. H. Koster, a two-story frame residence, 22 by 52 feet in size; to be built at State street between Seventieth and Seventy-first streets; it will have stone basement, oak interior finish, mantels, sideboards, gas fixtures, furnace, etc.

Architects Huehl & Schmid: For William Waller, a two-story store and photographic gallery, 55 by 63 feet in size; to be erected at Clark street near North avenue; it will be of pressed brick with Bedford stone trimmings, have the modern plumbing, gas and electric fixtures. For Goss Printing Press Company, at Sixteenth street and Ashland avenue, a two-story factory, 144 by 190 feet in size; to be of common brick, have steam heating, electric light, plumbing, etc. Also making plans for a two-story addition, 60 by 50 feet in size; and boiler house for the Q. & C. Company, at Chicago Heights. For John G. Jones, a four-story store and flat building, 25 by 76 feet in size; to be erected at 442 West Van Buren street; to be of pressed brick and stone front, have the modern plumbing, gas fixtures, steam heating.

Architect Thomas H. Mullan: For Stephen Fay, a two-story and basement flat building, 22 by 60 feet in size; to be erected at Kedzie avenue near Polk street; to be of buff Bedford stone front, have oak finish, mantels, sideboards, gas fixtures, electric bells, speaking tubes, heating.

Architects Handy & Cady: For H. L. Bruchner, a three-story apartment house, 39 by 72 feet in size; to be erected at Fifty-sixth street and Indiana avenue; it will be of pressed brick and stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, electric light, gas ranges and fireplaces, steam heating, electric bells, etc.

Architect W. R. Gibb: For David Baumbach, a three-story and basement flat building, 24 by 54 feet in size; to be erected at Fifty-fifth street and Kimball avenue; it will be of pressed brick with buff Bedford stone trimmings, have hardwood interior finish, mantels, sideboards, gas fixtures, etc.

Architect C. A. Strandell: For Frank Lundquist, a three-story and basement flat building, 44 by 66 feet in size; to be built at Roscoe street near Evans-ton avenue; it will be of buff Bedford stone front, have interior finish in quarter-sawn oak and Georgia pine, mantels, sideboards, gas and electric fixtures, electric light, electric bells, speaking tubes, laundry fixtures, steam heating. For M. Lindholm, a three-story and basement flat building, 22 by 56 feet in size; to be built at Reta street near Cornelia; it will be of pressed brick front, with buff Bedford stone trimmings, have quarter-sawn oak finish, mantels, sideboards, gas fixtures, laundries, etc. For John Anderson, a three-story and basement store and flat building, 24 by 91 feet in size; to be built at Clark street near Wellington avenue; it will be of pressed brick with Bedford stone trimmings, have hardwood finish, hardwood floors, laundry fixtures, electric bells, speaking tubes, gas and electric fixtures, heating. For Matt Larson, a two-story frame flat building, 23 by 66 feet in size; to be built at Wilson avenue near Clark street, Ravenswood; it will have a pressed brick basement, hardwood interior finish, mantels and sideboards, gas and electric fixtures, laundry fixtures, electric bells, etc.

Architect George Grussing: For Thomas Jubb, a two-story and basement flat building, 24 by 68 feet in size; to be built at Flournoy street near Kedzie avenue; it will be of stone and pressed brick, have all open modern plumbing, gas fixtures, mantels, sideboards, etc. Also making plans for a two-story and basement flat building, 50 by 58 feet in size; to be erected at Winchester avenue near Polk street; it will be of pressed brick and stone front, have interior finished in quarter-sawn oak and Georgia pine, all open nickel-plated plumbing, gas and electric fixtures, steam heating.

Architect John A. Rogers: Making plans for sixteen-story addition to Ashland Block, corner of Randolph and Clark streets; it will be of steel construction, with terra cotta facing, have marble wainscoting, mosaic floors, elevators, steam heating, electric light, modern plumbing. Also making plans for a handsome frame residence, 34 by 60 feet in size; to be built at Indianapolis, for H. C. Atkins; it will be two-story, basement and attic, with stone basement, have hardwood finish throughout, all open modern sanitary plumbing, gas fixtures, etc.

Architect Albert S. Hecht: For himself, a three-story and basement flat building, 25 by 97 feet in size; to be erected at Addison street near Rokeby; it will be of buff Bedford stone front, have interior finished in quartered oak, mantels, sideboards, gas fixtures, laundries, electric bells, speaking tubes, gas ranges and fireplaces, the best of open plumbing, steam heating, etc.

Architect Dwight H. Perkins: Preparing working drawings for the Post Graduate Medical School, to be erected at Twenty-fourth and Dearborn streets; it will be a handsome-looking building, five-story, basement and attic, 50 by 100 feet in size; have pressed brick front with terra cotta trimmings, have hardwood interior finish, the best of modern sanitary conveniences, heating and ventilation, cement and marble floors, elevators, electric light, etc.; also making plans for the interior finish for the Kuntz & Remmler restaurant at 303 Wabash avenue; it will be very elaborate—the classic Renaissance—have frescoing, marble wainscoting, marble floors, electric light, steam heating, etc. Also made drawings for remodeling building at 118 Monroe street, for the Building Trades Club; will put in dining room, billiard room, parlor, business offices, private lobby, retiring rooms, electric light, plumbing and heating. Same architect made plans for remodeling the Leader store, at Adams and State streets, for C. D. Peacock; will put in new store fronts, and very fine decorations, marble and mosaic work, electric light, steam heating, special electric display lighting, etc.; it is 86 by 145 feet in size; they will occupy the basement also, and will have the finest jewelry store in Chicago. Also, for Mrs. A. M. Hitchcock, a handsome three-story residence, to be erected at 4741 Greenwood avenue; it will have a buff Bedford stone front, fine hardwood interior finish, special mantels, sideboards and consoles, the best of modern sanitary conveniences, gas and electric fixtures, gas ranges and fireplaces, electric light and steam heating. For James J. Wait, a three-story residence, to be erected at Forty-eighth street and Greenwood avenue; the front will be of Roman pressed brick, with terra cotta and Bedford stone trimmings, the interior to be of elegant hardwood finish, have all the modern improvements and conveniences.

Architects Bright & Burfeind: Making plans for a frame church, 44 by 60 feet in size; to be erected at the corner of St. Lawrence avenue and Oakley avenue Ravenswood, for the Evangelical Lutheran Congregation; to have stone foundation, oak interior finish, pews to seat six hundred persons, gas fixtures, stained glass windows, etc.

Architect Robert S. Smith: For B. S. Pruett, a three-story store and flat building, 75 by 84 feet in size; to be erected at 5339 to 5343 Wentworth avenue; to be of pressed brick and stone front, have hardwood finish, mantels, gas fixtures, steam heating, etc.; cost \$125,000.

Architect W. W. Boyington: For Orlando Powers & Sons a six-story store and office building, 150 by 150 feet in size; to be erected at Decatur; it will be of Roman pressed brick with terra cotta trimmings, have hardwood finish, marble and tile work, electric light, steam heating, gas and electric fixtures, elevators, etc.

Architects Ostling Brothers: For J. Lygren, a four-story and basement flat building, to be erected at 146 Sedgwick street; to have modern plumbing, gas fixtures, etc.

Architects Fry & Cunningham: For J. W. Rossiter, a two-story frame residence, to be built at West Fifty-third street near Chicago avenue; to have stone basement oak and Georgia pine finish, gas fixtures laundry furnace.

Architect W. J. Van Keuren: Making plans for two two-story residences, to be erected at Oak Park; one will be of frame with stone basement, and the other of pressed brick front and sides; will put in all the modern plumbing, oak and Georgia pine finish, mantels, sideboards, gas fixtures, laundry fixtures, electric bells, speaking tubes, furnaces.

Architects Treat & Folz: For Dudley & B. M. Winston, a six-story apartment house, 45 by 98 feet in size; to be erected at 135 to 137 Pine street; it will be of pressed brick with terra cotta trimmings, have mahogany entrance, marble steps, the best of modern plumbing, gas and electric fixtures, elevator, electric light, steam heating, etc. Also made plans for six four-story buildings, to be erected at the southeast corner of Halsted and Twenty-second streets, for Col. H. A. Du Pont; they will be of fireproof construction and cost about \$100,000.

Architects Tenthill & Atchison: Made plans for a three-story and basement flat building, 50 by 62 feet in size; to be erected at Kedzie avenue between Fifteenth and Sixteenth streets; to be of buff Roman pressed brick and Bedford stone, have oak finish, modern plumbing, steam heating.

Architect W. T. Leshner: For Charles E. Follansbee & Son, a four-story and basement apartment house, 160 by 200 feet in size; to be erected at the northwest corner of Wabash avenue and Twenty-third street; it will have two fronts of pressed brick and stone, copper bays, hardwood finish, marble, mosaic and tile work, electric light, steam heating, elevators; cost \$200,000.

Cleveland, Ohio.—Messrs. Coburn, Baruum, Beues & Hubbell have formed a partnership under the above name and will remove about April 1 from 40 Blackstone building to well-equipped offices on the thirteenth floor of the New England building. They have in preparation plans for a brick and terra cotta building for the Western Reserve Historical Society, to be built on Euclid avenue opposite Wade Park; the building will be used for museum purposes, and will be fitted up with every modern convenience; the cost will be about \$50,000. For the Plain Dealer Publishing Company they are preparing plans for extensive alterations to the buildings at the northwest corner of Superior and Bond streets, fitting them up with every convenience for a modern printing establishment and newspaper offices. They also have plans prepared for an 8-room brick schoolhouse, to be built at Norwalk, Ohio.

Mr. Alfred Hoyt Granger and Mr. Frank B. Meade have formed a partnership under the name of Granger & Meade, with offices at 731 Garfield building. They report the following: For George W. Cody, at Wickliffe, Ohio, a frame and shingle country residence, 70 by 90 feet in size; modern improvements, hot water; cost \$10,000. For Kenyon Painter, a stone and half-timber residence, to be built on Euclid avenue; cost \$10,000. For A. C. Dustin, at Grand View, a \$15,000 shingle and half-timber residence; hardwood, hot water and modern improvements. For Ernest Pfeueger, at Akron, Ohio, a modern residence, to cost \$5,000.

Messrs. Lehman & Schmitt, 619 Hickox building, have received the commission to build the new courthouse for Bradford county, Pennsylvania, at Towanda; cost \$150,000.

Architect W. W. Sabim, 33 Blackstone building, is preparing plans for a police station for the city of Cleveland, to be built on East Madison avenue near Woodland avenue.

Much interest is being taken in the competition for the new building for the Chamber of Commerce. The drawings are to be delivered to the committee April 1, 1896.

Cincinnati, Ohio.—Architects Des Jardins & Hayward: For Lewis Season-good, brick and stone residence; cost \$25,000.

Denver, Colo.—Architect F. E. Edbrooke: For J. S. Richie, two-story brick block. For J. F. Campion, three-story stone dwelling; cost \$50,000. Three dwellings, aggregating \$15,000.

Detroit, Mich.—Architect Goslov A. Mueller: For C. D. Midman, three-story brick and stone stores, heated by steam; size 100 by 115 feet; cost \$25,000; projected. For Schwartz Bros., two-story brick and stone store; cost \$5,000; projected. For H. W. Pickel & Co., office building; steam heated, etc.; cost \$5,000; projected.

Architects Rogers & McFarlane: For Merz Capsule Co., three-story brick manufactory; size 60 by 100 feet; cost \$16,000; projected.

Architects Malcomson & Higginbotham: For J. B. Ford, two-story brick and stone residence; cost \$6,000.

Architect H. A. Brede: For Improved Match Co., three-story factory; size 60 by 105 feet; cost \$18,000; projected.

Architect Harry J. Hill: For Jacob Greenstein, block of three two-story brick stores and flats; cost \$5,500; projected.

Architects Company's Draughtsmen: For Michigan Peninsular Car Co., steel frame construction manufactory; cost \$15,000.

Architect John Schuman: For Steinhiser Bros., brick warehouse and office building; cost \$5,000.

Emmett, Michigan.—Architect Harry J. Rill: For Roman Catholic Society, church edifice; brick and stone, furnace heated; size 62 by 139 feet; cost \$16,000. Also parochial residence, three-story, brick and stone, heated by hot water; size 42 by 56 feet; cost \$6,000.

Joliet, Ill.—Architect H. Boehme: For Rev. Father Dane, schoolhouse of brick and stone, oak finish, electric light, slate roof, ornamental glass, steam heat; cost \$18,000. For Henry Schring, residence of brick and stone, electric light, steam heat, ornamental glass, oak finish; full plumbing; cost \$8,000.

Marietta, Ohio.—Architects Welleson, Kohn & Trowbridge of Detroit, Michigan: For First Presbyterian society, church edifice of Ohio sandstone, slate roof, stained glass windows; size 64 by 106 feet; cost \$17,000; projected.

Milwaukee, Wis.—Architects Schnetzky & Liebert: For George Brumber, office building of stone and brick; size 128 by 90 by 180 feet, eight stories and basement; cost \$300,000.

Architects H. C. Koch & Co.: Remodeling old Insurance building; cost \$300,000.

Architects E. Brillmaier & Sons: Church of stone, brick and terra cotta; size 220 by 130 feet; hot-air heating; cost \$150,000.

Architect Charles Kirchoff, Jr.: For Joseph Schlitz Brewing Company, storage and office building, at Springfield, Illinois; size 36 by 104 feet; brick; cost \$10,000.

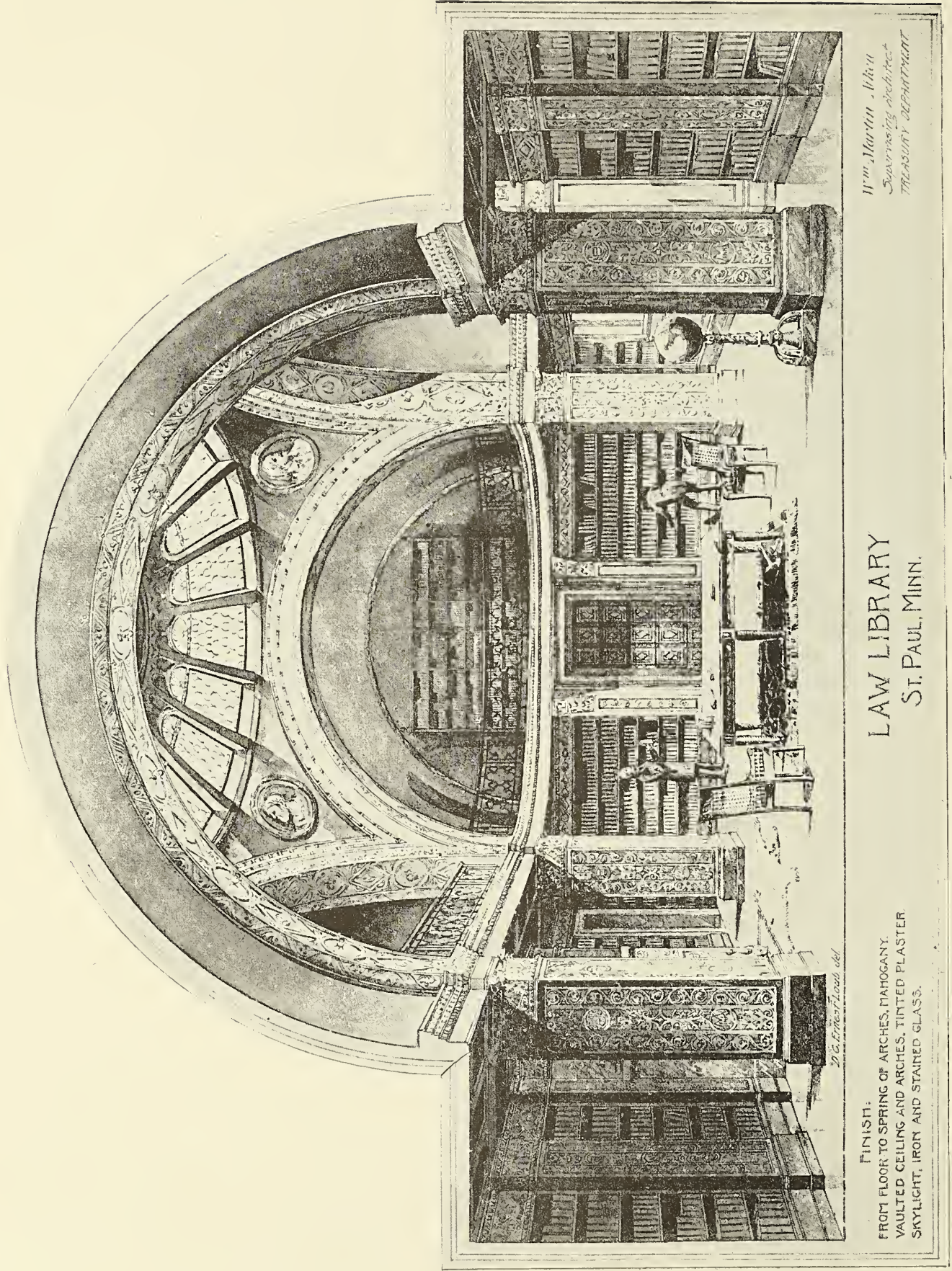
Minneapolis, Minn.—Architects Long & Kees: For Gregor Menzel, business block; size 100 by 102 feet, five stories and basement; pressed brick with stone trimmings; cost \$75,000.

St. Louis, Mo.—A generally hopeful feeling exists in all of the building trades and among the working people of the city, who feel that a year of prosperity and continuous employment is before them.

Architects Fames & Young: For estate of Wayman Crow, bank building, size 86 feet 10 inches by 127 feet 3 inches, one story; cost \$70,000.

St. Paul, Minn.—Architect Cass Gilbert: For George W. Freeman, residence of brick and stone; size 45 by 60 feet; cost \$15,000.

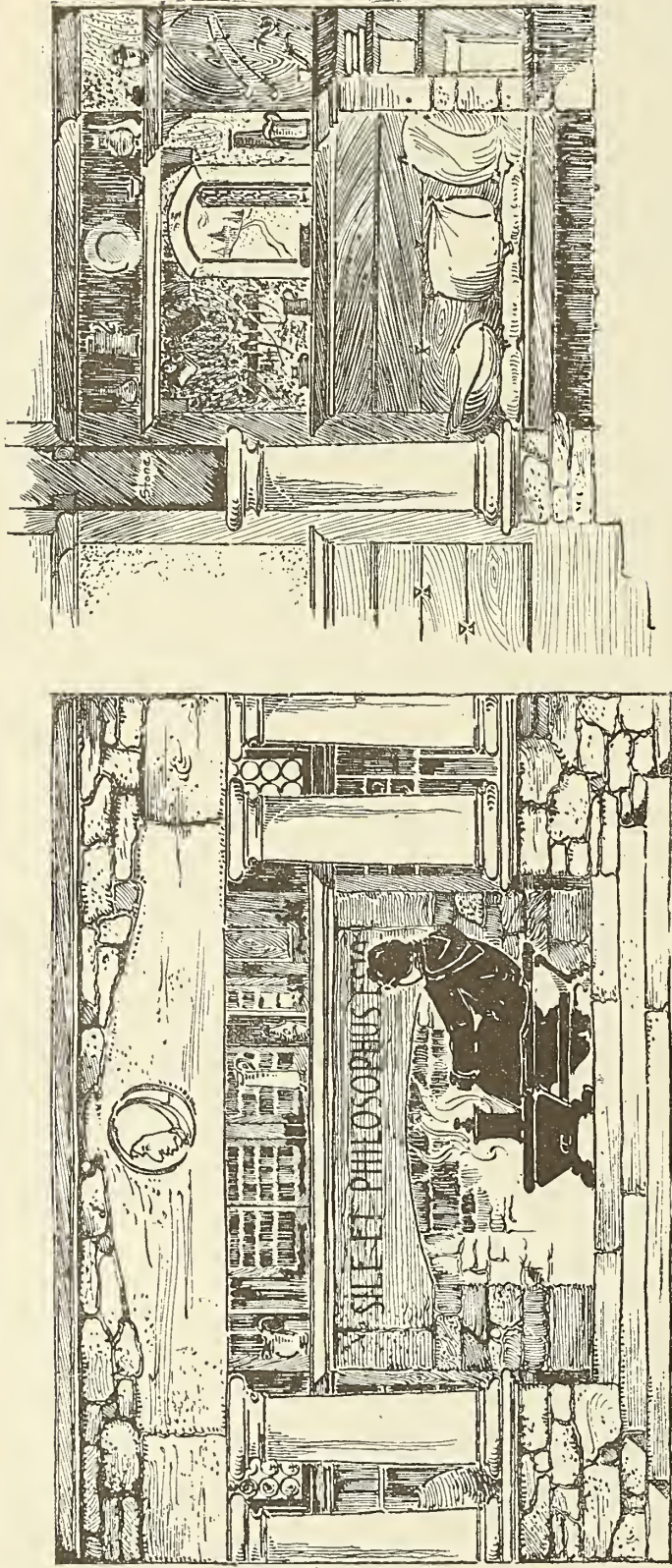
Ypsilanti, Mich.—Architects Malcomson & Higginbotham, of Detroit, Michigan: For Students' Christian Association, association building, two stories; of field stone, cut stone trimmings, tile roof, heated by furnace; size 60 x 65 feet; cost \$12,000; projected.



W. M. Martin, when
Superior Architect,
TREASURY DEPARTMENT

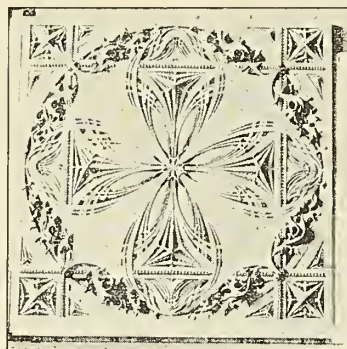
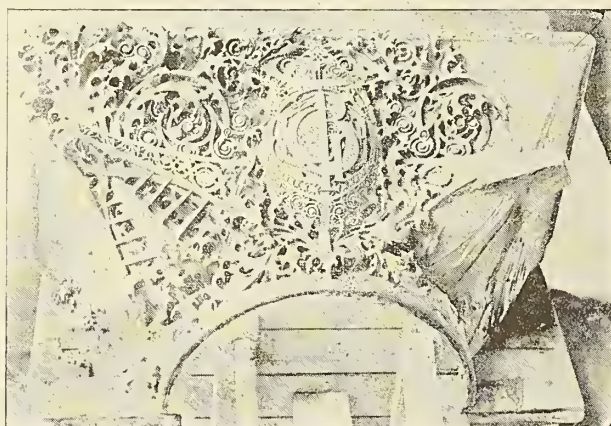
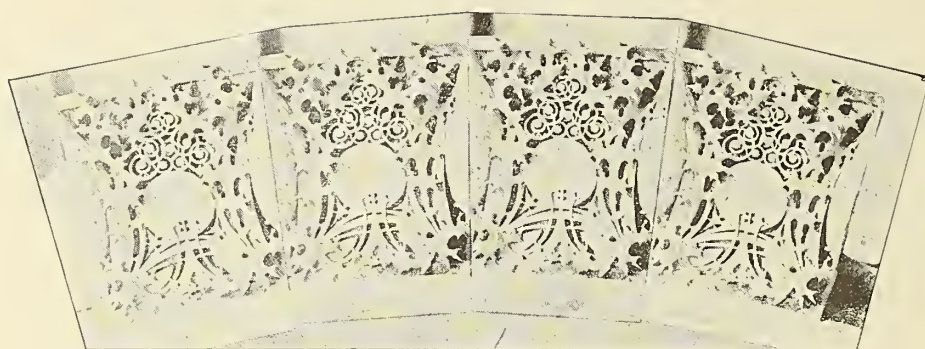
LAW LIBRARY
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FINISH:
FROM FLOOR TO SPRING OF ARCHES, MAHOGANY.
VAULTED CEILING AND ARCHES, TINTED PLASTER.
SKYLIGHT, IRON AND STAINED GLASS.



By courtesy of Cleveland Architectural Club.

AN INGLENOOK—T-SQUARE CLUB.
FIRST MENTION, DAVID KNICKERBOCKER BOYD, PHILADELPHIA.



By courtesy of Cleveland Architectural Club.

DETAILS FROM GUARANTY BUILDING, BUFFALO.

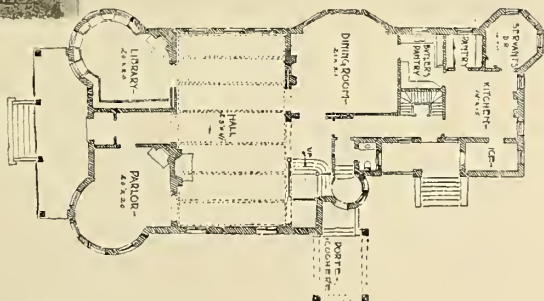
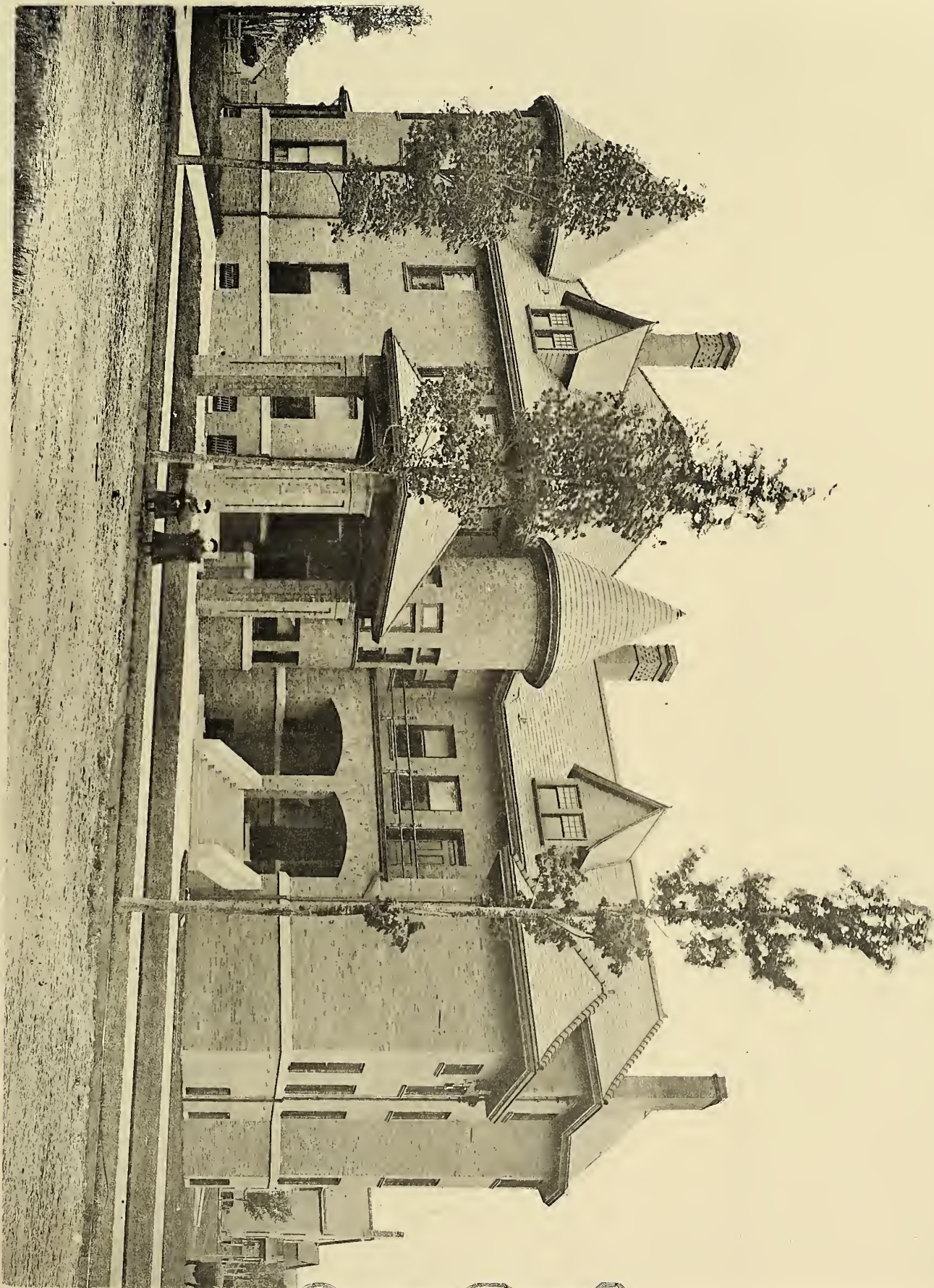
LOUIS H. SULLIVAN, ARCHITECT, CHICAGO.

Negative by R. Capes, Chicago.

RESIDENCE OF EDWARD C. POTTER, CHICAGO.

CHARLES S. FROST, ARCHITECT.

INLAND ARCHITECT PRESS.







RESIDENCE OF T. T. SEELYE.

Photo by Herbert B. Briggs.

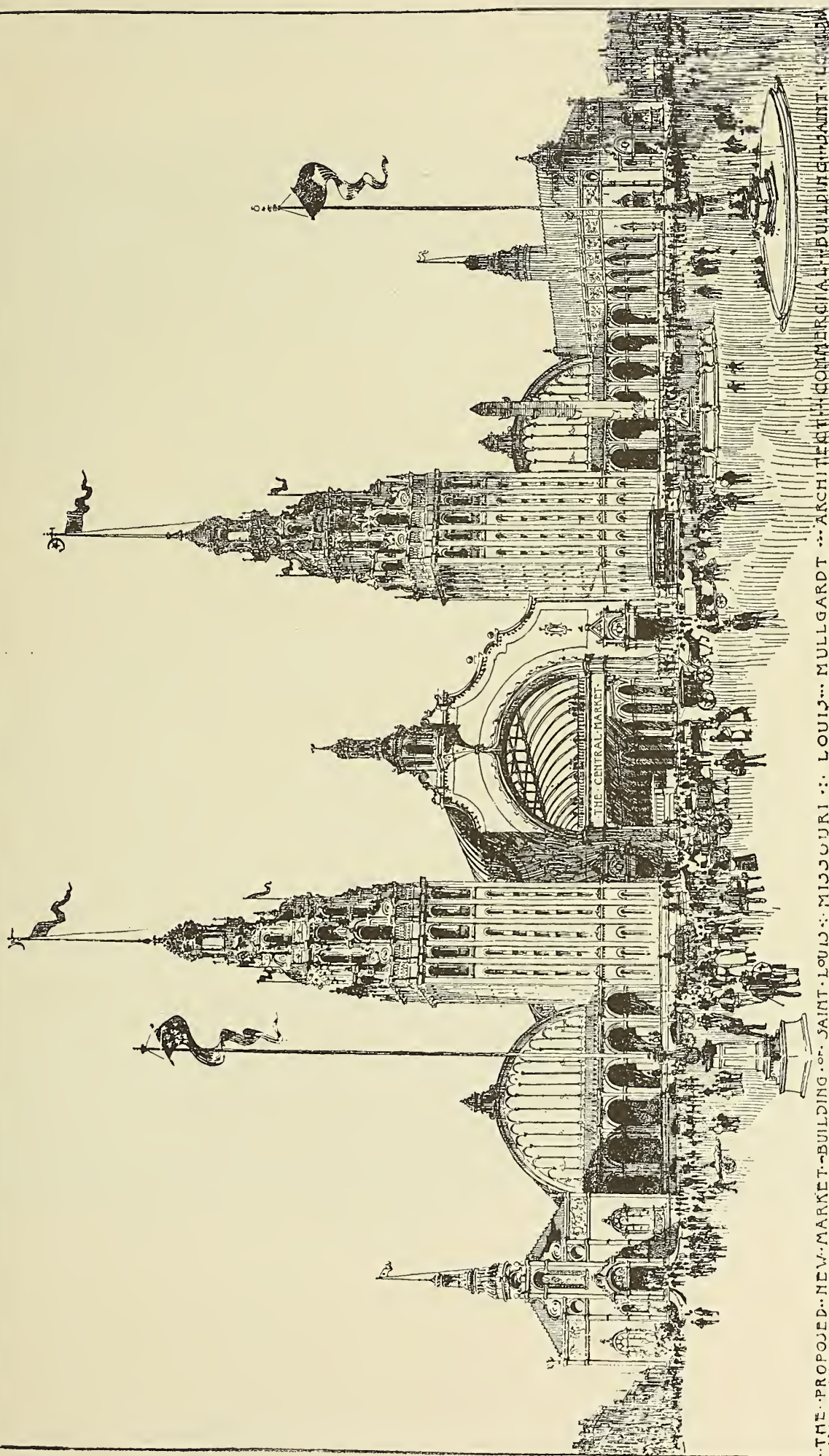


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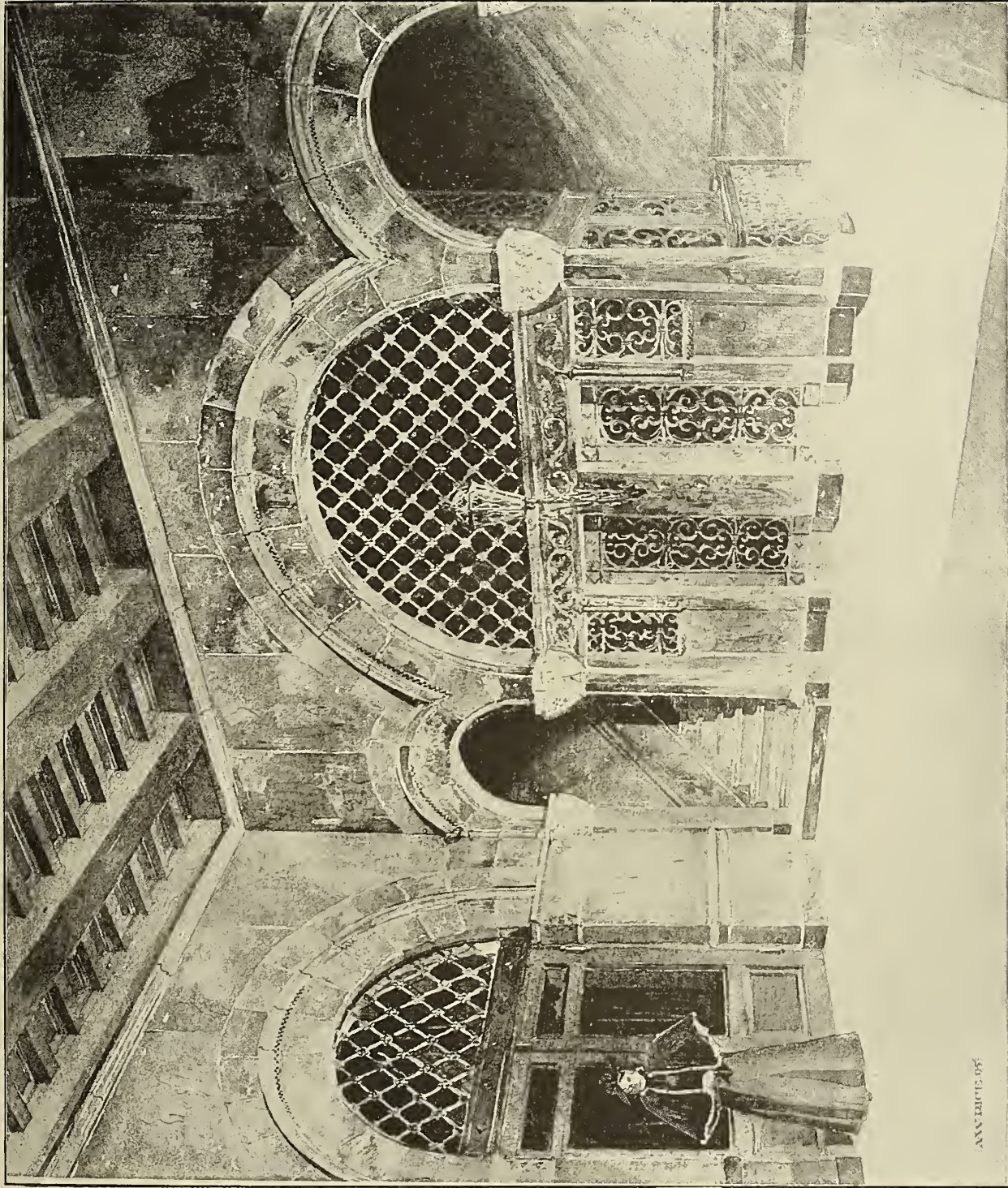
Photo by Herbert B. Briggs.

RESIDENCE OF JOHN U. MAY.

FRANKLIN B. MEADE, ARCHITECT.



THE PROPOSED NEW MARKET BUILDING OF SAINT LOUIS, MISSOURI. ARCHITECT: COMMERCIAL BUILDING COMPANY.



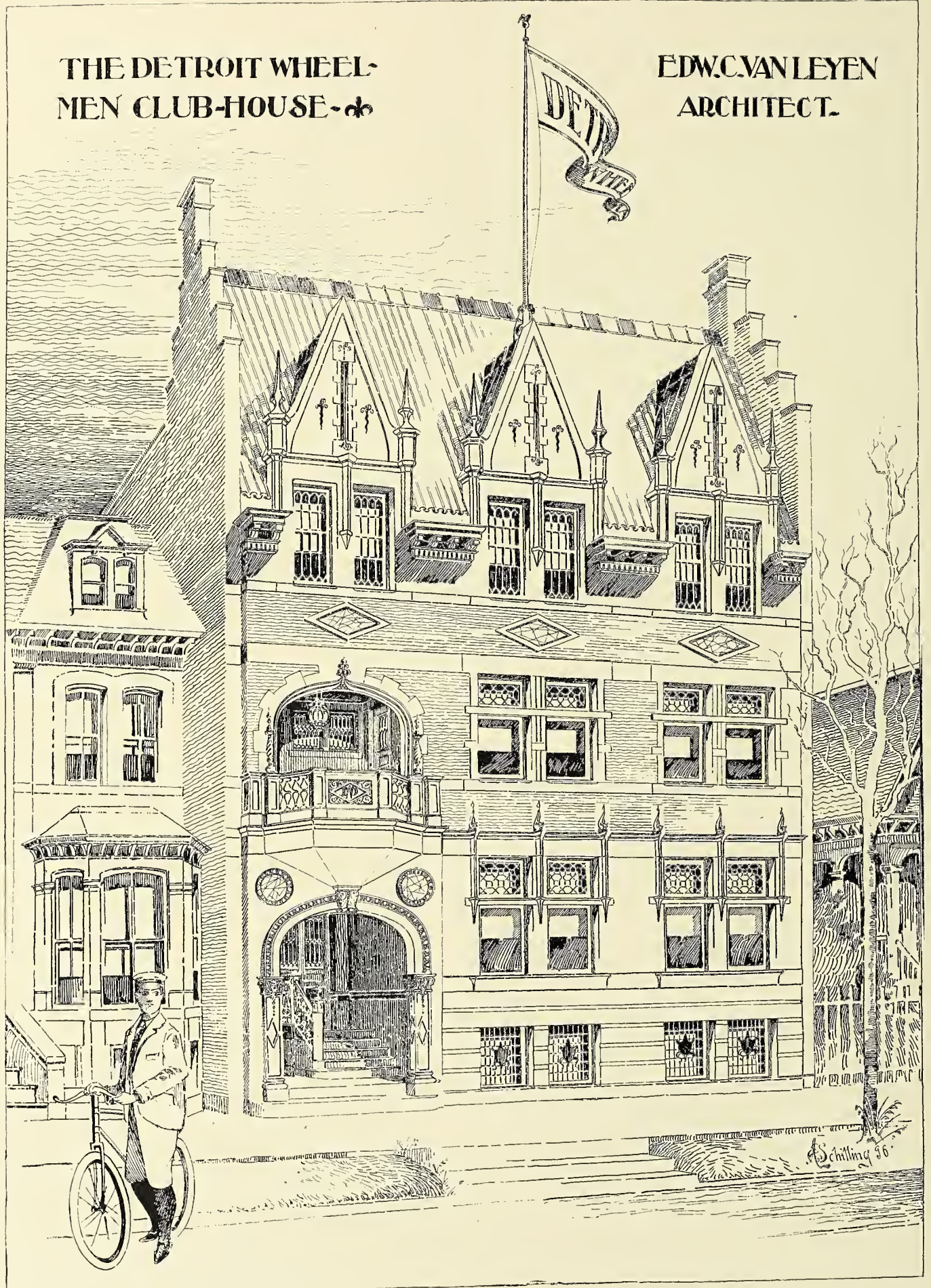
ANNEX 105

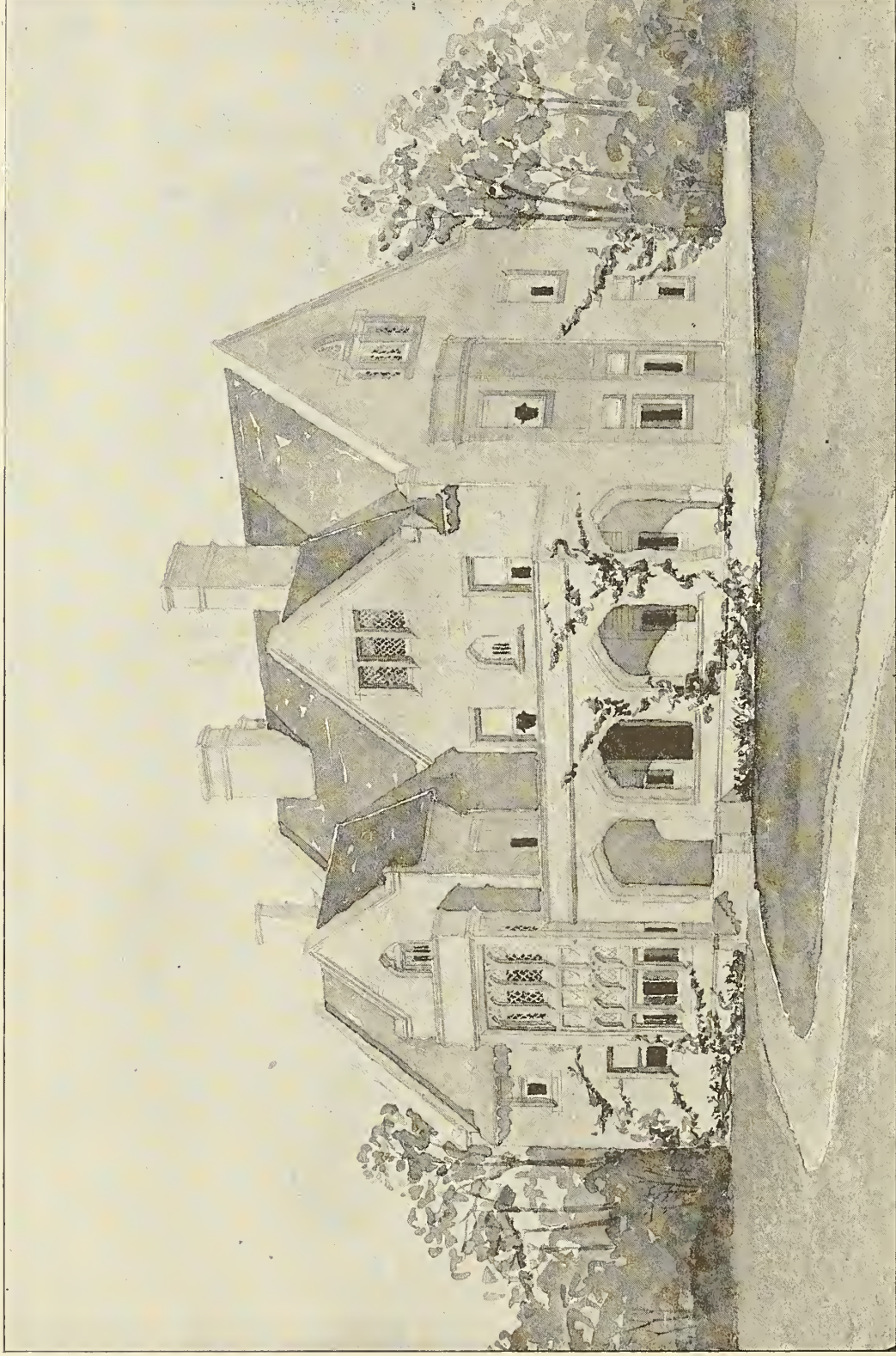
STAIR AND ELEVATOR HALL
MILWAUKEE, WIS.

Wm. Martin Johnson
Chicago, Ill.
Architect

THE DETROIT WHEEL-
MEN CLUB-HOUSE.

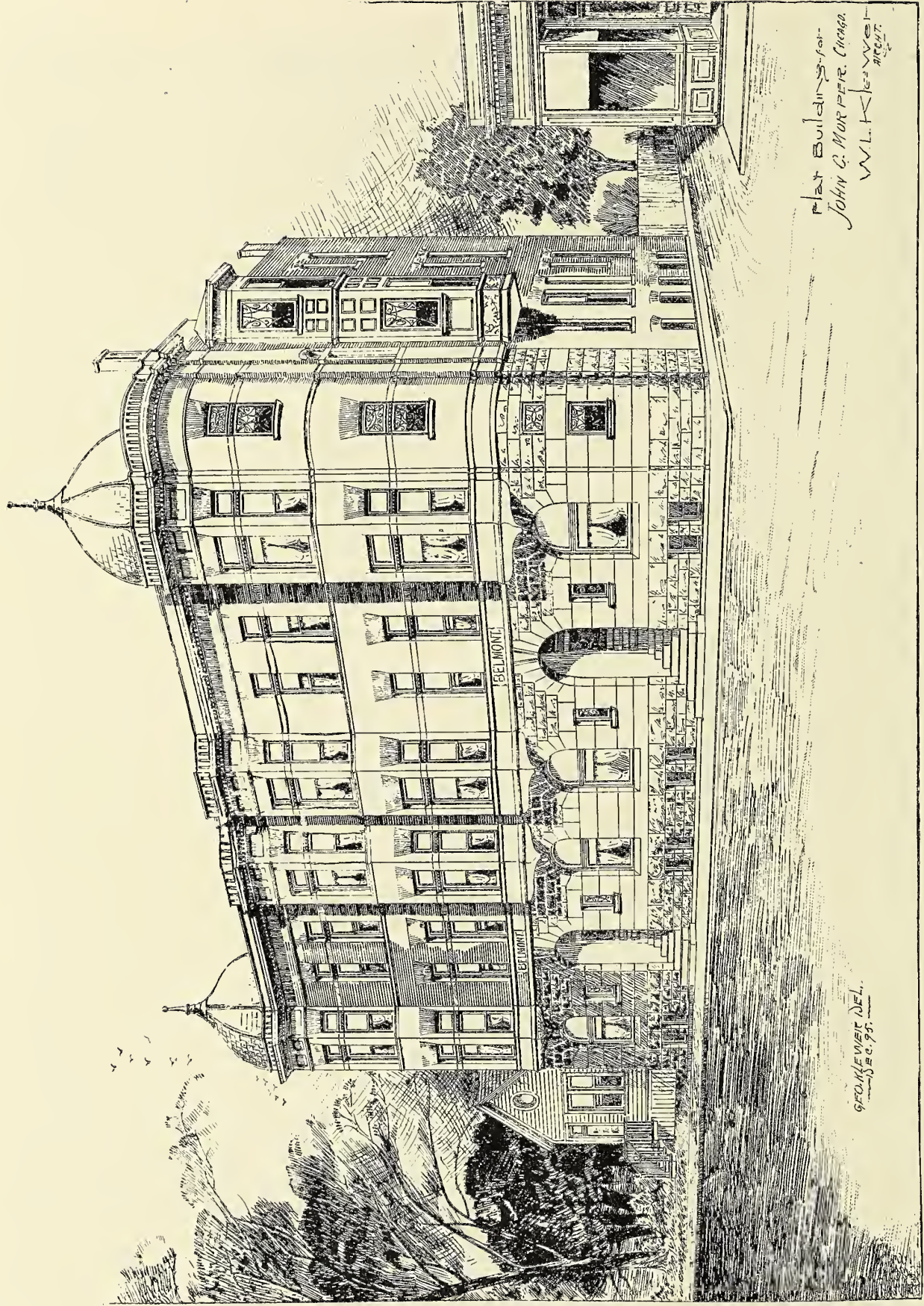
EDW.C.VAN LEYEN
ARCHITECT.

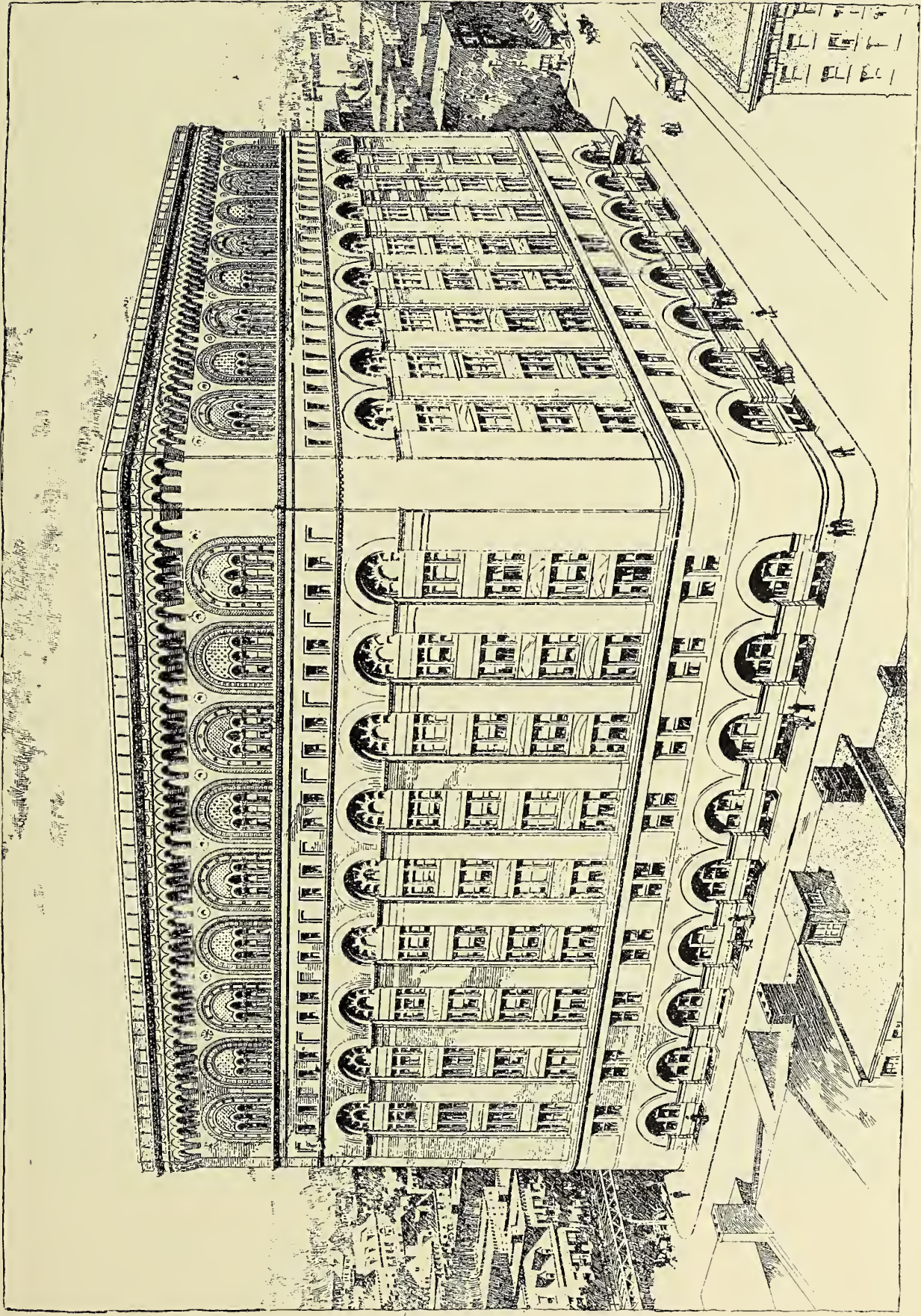




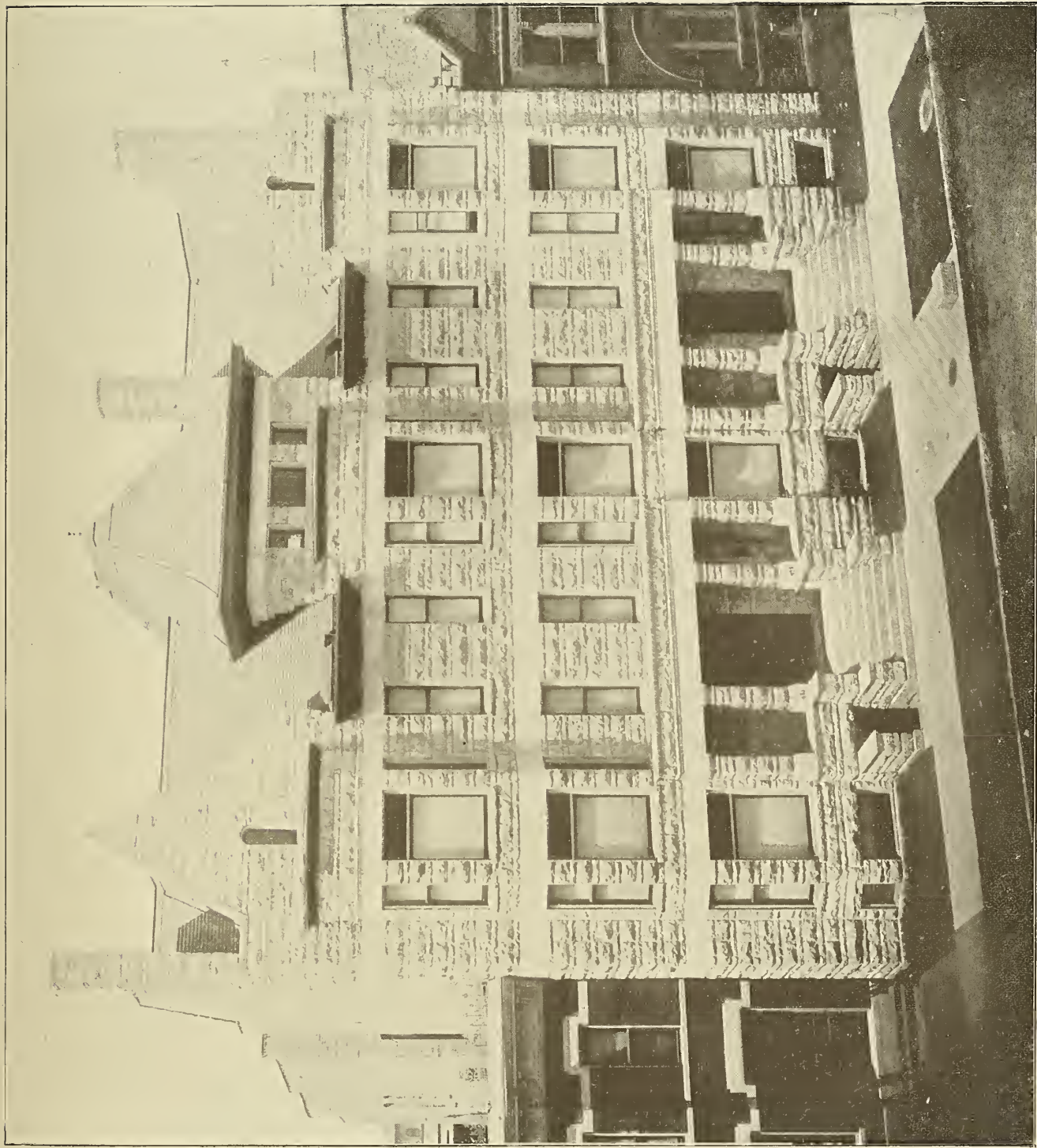
By courtesy of Cleveland Architectural Club.

RESIDENCE OF JOHN H. BROWN.
ALFRED HOYT GRANGER, ARCHITECT.



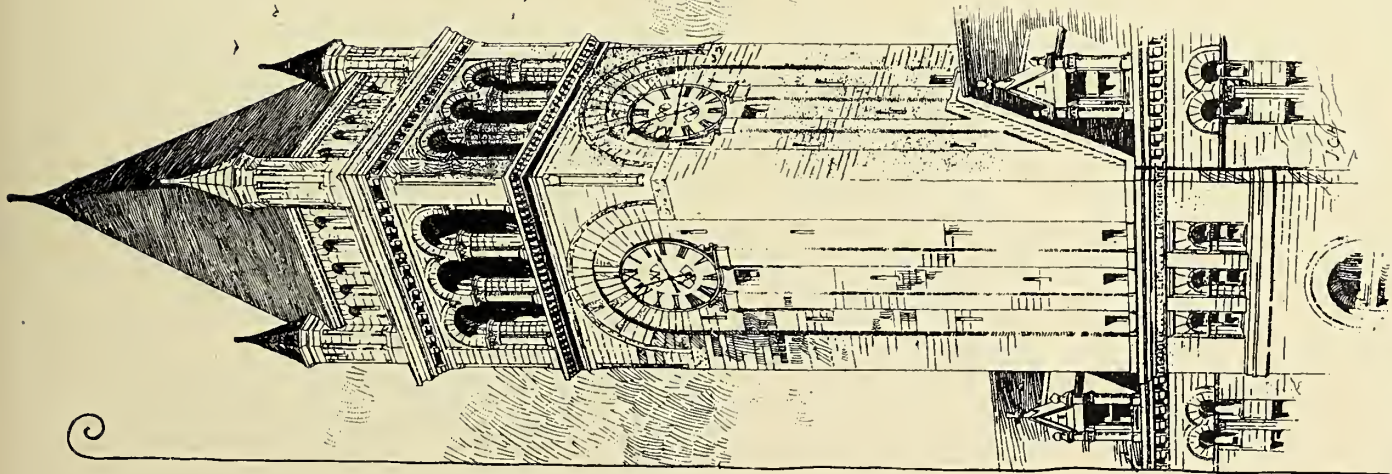


APPRaiser's WAREHOUSE, NEW YORK.
W.M. MARTIN AIKEN, SUPERVISING ARCHITECT, WASHINGTON, D. C.

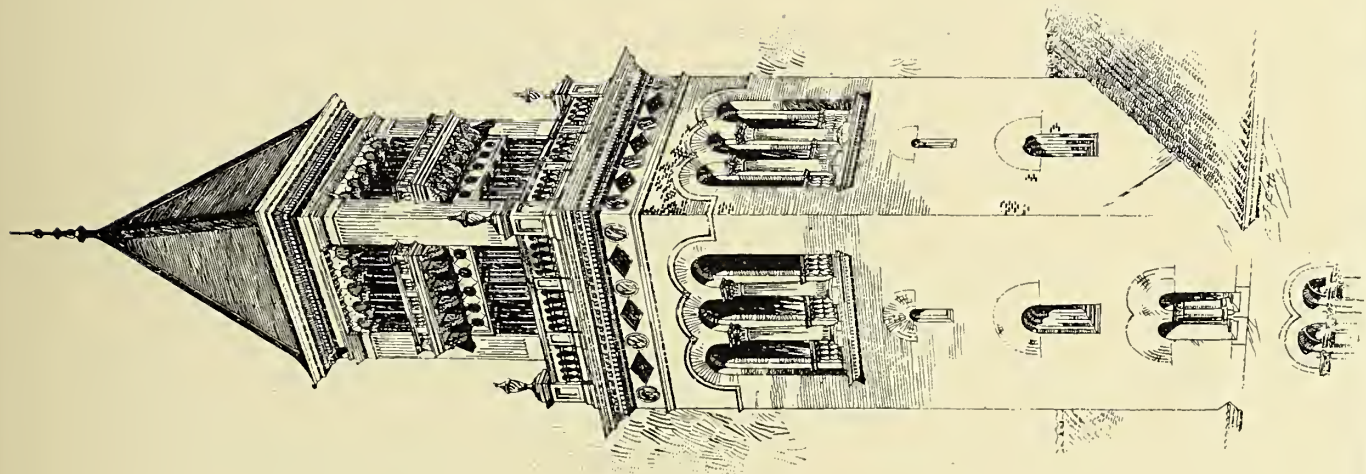


APARTMENT BUILDING FOR L. G. WELLS, CHICAGO.

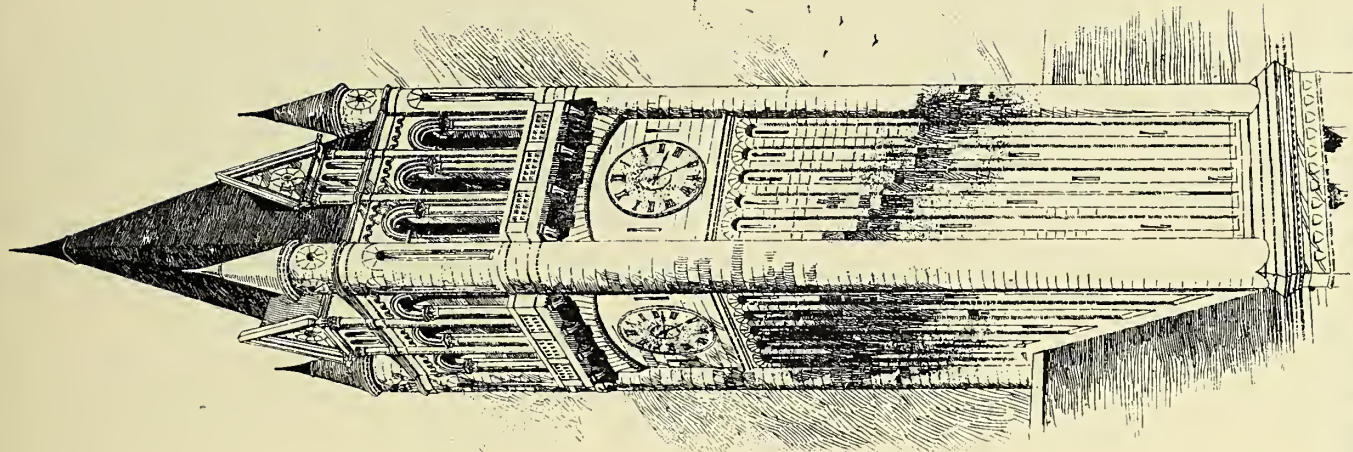
J. H. DINWIDDIE AND ROBERT T. NEWBERRY, ARCHITECTS.



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THE INLAND ARCHITECT AND NEWS RECORD

Vol. XXVII.

APRIL, 1896.

No. 3



A Monthly Journal Devoted to
ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
19 Tribune Building, Chicago, Ill.

L. MULLER, Jr., Manager. **ROBERT CRAIK MCLEAN, Editor.**

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), \$1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

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**Support
Asked for
the Aldrich
Bill.**

That most important movement to the architects as well as the people of the United States, the reforms outlined by the Aldrich bill now before Congress, seems to be progressing favorably, but it has become a labor which taxes the energies of the splendid committee in charge to its utmost, and their success now depends upon the degree of moral and financial support they receive from the public. To promote the bill and obtain its passage requires constant representation at Washington. This was commenced a year ago, and at the adjournment of Congress in August the work was all but accomplished; its failure to pass through the obstructionist action of that Congress, which was general in regard to all bills, has made it necessary to commence and prosecute the work again. This labor is more than can be expected of any architect or committee of architects, as, besides the regular routine, the members of the committee in charge will have to appear frequently at Washington to speak for the bill and otherwise give it the necessary support. During the last session of Congress this work, which devolved upon two or three energetic spirits who alone were really active in the matter, was so great and the expenses so much more than even the handsome fund contributed by the profession could cover that it has been decided by the committee to raise a larger fund so that the committee may not be unnecessarily hampered in the work of securing the passage of the bill at this session of Congress, and if it should chance to fail in this, to enable the committee to reintroduce it at the next, and so keep up the fight until the present objectionable methods of erecting government buildings have been obliterated and a new plan in the interest of art and culture be inaugurated. In raising this fund the committee have decided to ask for contributions, not from the members of the profession who have already contributed liberally, but through them from private citizens who are interested directly or indirectly in the proposed reform. When it is realized that a committee composed of leading members of the profession are giving almost their entire time to the work of procuring the passage of this measure, which will at once place our government architecture upon the plane of art and obliterate a custom that holds it beneath mediocrity, it should not be a difficult task to secure the contribution of the necessary money to carry on the work without embarrassment. On another page is given the committee's circular letter in detail, and, of course, it is needless to state that the contributions asked are for the legitimate expenses involved and that such use in the hands of the committee is guaranteed. While we can speak to the profession alone upon this matter, it is to the public who have the future grandeur of our country at heart that the reform that will be accomplished by the Aldrich bill most appeals. The appointment of Henry Ives Cobb, of Chicago, as architect of the Chicago Post Office is creditable to the government, and will insure a successful public building, but it establishes a precedent that has too many dangers of abuse to make its continuance advisable. The general lines of the Aldrich bill will alone solve the problem, and it should be supported most by those who desire special legislation similar to the Chicago bill.



NINTH ANNUAL EXHIBITION OF THE CHICAGO ARCHITECTURAL CLUB.

BY PETER B. WIGHT.

THE ninth annual exhibition of the club opened at the Art Institute March 31 and closed on the 11th inst. It occupied the three northeasterly galleries. If the interest of the club members can be any guide to the excellence of the exhibits, first in importance will rank the cover of the annual catalogue. This year it is the work of R. C. Spencer, Jr. The reproduction that we give herewith is a facsimile except for the fact that we are obliged to omit the red background of the panel in which the lettering occurs. It needs no further description.

It is not exaggerating to say that this is the best exhibition the club has held. It is the best because it is most valuable to the club and the public in a way not heretofore suggested by these annual collections of the works of the students and professionals. It has very few contributions from leading practicing architects, contains but few of the great projects recently called out by the demand for improvements, and, therefore, is not an illustration of the progress or present condition of the art. But its distinctive characteristic is found in its illustration of the present condition of architectural education in America, as exemplified by the professional schools and the voluntary associations of students and draftsmen. The Chicago Architectural Club is one of the latter. Originally organized as a "sketch" club, the word "sketch" was, two years ago, obliterated from its name when it made its regular membership open to all practicing architects.

It has been repeatedly stated in these pages that little or nothing can be accomplished for the cause of good architecture by the attempt to exhibit it on the walls of a picture gallery. The public is not prone to draw the distinction between architectural drawings and architectural pictures. Such an exhibition to be comprehensible should be so divided into sections that plans and elevations could be in one room, photographs in another—like the collective exhibit of the Boston Publishing Library—and colored perspectives in still another; or else that all three of these should be grouped together to illustrate each building from the design to the accomplished fact as in the case of Carrere & Hastings in this exhibition. Either of these methods would be almost an impossibility in practice. But the work of the schools and clubs is all on paper. The illustrative drawing is the *result* in every case, and an exhibition of them is practicable and comprehensible.

The present having demonstrated that the educational part of the exhibit may be not only its useful but its most attractive

feature, the suggestion is arrived at that perhaps it would be most wise in the future to omit all executed work and the designs of professional architects of more than two years' practice not members of the clubs. The experiment is at least worth trying. The club has already demonstrated its ability to do it, and the prestige it would obtain through its success would be worthy of the progressive city which it represents. If this should be attempted very early notice should be given so that the various schools of architecture could prepare in time to put forth their best efforts to show good results of a year's work. Let the public know that the schools and clubs stand in competition as bodies and the interest taken would be far greater than even before seen.

It needs no argument to show that a mixed exhibition of the designs of professionals and students is unfair to both classes. In this one those of the latter predominate so largely that they do not suffer by comparison. There are very few contributions from Chicago architects, and most of those are exhibited under the names of the draftsmen who are members of the club, as specimens of their handiwork, due credit being given to the architects in the catalogue.

The following schools of architecture make collective exhibits: Columbia College Department of Architecture, New York, thirty-six drawings by twelve students, and University of Pennsylvania School of Architecture, fifty-nine drawings by twenty-one students. The clubs making collective exhibits are as follows: The Sketch Club, of New York, four drawings by three members; the Cleveland Architectural Club, ten drawings by nine members; Detroit Architectural Club, five time-limit sketches executed by members at the clubroom; P. D. Club, Boston, three drawings by one member; St. Louis Architectural Club, six drawings by three members; the T-Square Club, of Philadelphia, thirty-seven drawings by fifteen members, and the Chicago Architectural Club, nine drawings specially prepared and fathered by the club as a body, being designs for the improvement of the new Lake Front park.

The club and school drawings are hung in groups. Those of the Columbia College and University of Pennsylvania schools nearly fill a room each. The individual contributions of the members of the Chicago Architectural Club are all hung in the east room, grouped around the official club drawings.

First in interest, if not in merit, are the designs made to express the views of the Chicago club upon the best method to improve the new Lake Front park. They came to be made in this manner: When there was a prospect, about a year ago, that the city would acquire this desirable ground as an addition to the narrow strip extending along Michigan avenue from Randolph street to Park Row, the Chicago Municipal Improvement League, which had been organized a year previous, undertook to advise the corporate authorities of the city as to the possibilities of improving the ground in the best manner. The league had some hope that its suggestions might have influence in shaping the agreement then proposed to be made between the city of Chicago and the Illinois Central Railroad Company, so that the city might get the best results whenever a park might be laid out. To that end its sub-committee of architects prepared a series of drawings showing how the ground could be treated. As they thought the leading features of a plan might be adopted, they prepared plans, subject to modification in details, to ascertain if the proposed contract would be best for the city's interests. The committee found that there were a few particulars in which it could be changed greatly to the city's interests and not in any respect conflicting with those of the railroad company, which would result in future economy in carrying out the improvements. But the city authorities treated these voluntary and disinterested offers of the league with coolness and indifference. The plans, however, were given to the public through the daily press, and never met with harsh criticism. After the park became an assured fact, the committee of architects decided to take advantage of the occasion to enlist the interests of the younger architects in the club, and demonstrate to the public that they had no personal ambition to satisfy. They handed all their studies over to the club, invited criticism, and asked the club to improve their latest plan. At the same time the Illinois Chapter of the American Institute of Architects made the designing of the proposed music pavilion the subject for the competition by members of the club for the chapter gold medal for 1896.

The club, after discussing the designs of the league as a body, concluded to adhere to their main features, and appointed a committee consisting of George R. Dean, president of the club, and Hugh M. G. Garden to embody their suggestions and modifications

in a new set of drawings. The result is seen in the two magnificent drawings here exhibited, one a ground plan and the other a colored bird's-eye view as seen from an elevated point over Lake Michigan. These drawings are supplemented by a sketch for the front of a proposed building for the Field Columbian Museum, by Mr. Dean, two designs for monuments made by other members for the committee, a design for a park shelter by Mr. Garden, and as supplemental, but showing an artistic treatment of viaducts over the railroad tracks, the design by Howard Shaw, which he had made for the Lake Avenue Improvement Associations. The principal modification made by the club was the reduction of the length of the grand basin, and thereby bringing the two entrances from the lake closer together. There have also been introduced two splendid monument sites. The island is retained, but the music pavilion faces the lake. This is a great improvement so far as avoiding the afternoon sun is concerned, but it will prevent the sound of music reaching the waters of the lagoon, where it would be most effective. The proposed municipal buildings at the north end are shown as on the league plan. This assumes that all that part of the old and new park north and east of the Art Institute is of no utility as open ground, and the lake view over it is either permanently obstructed now or extremely undesirable, in which case its use for municipal buildings will not be a detriment, but a decided advantage to the property west of Michigan avenue and north of Adams street. The buildings suggested are all strictly municipal buildings, except the Art Institute, already erected, and such as should be owned by the city whenever erected. It is different, however, with those at the south end, the proposed museum and library, which, although of a semi-public character, would be controlled by private corporations, would directly obstruct the lake view from the street and opposite buildings. It would be very easy to cut off the view of the car yards by other constructions without obstructing the lake view, and a large field might be reserved for public sports if these buildings were omitted. It is doubtful also if the suggested library site is desirable, owing to its propinquity to the Chicago City Library. These drawings are admirably rendered, notwithstanding the very short time allowed for making them, and in Mr. Garden's bird's-eye view the people of Chicago can for the first time get an adequate idea of the extent and value of their new acquisition.

The possible rivalry between long-established and well-endowed professional schools of architecture is well illustrated in the exhibits from Columbia College, New York, and the University of Pennsylvania. Of the former, under Prof. William R. Ware, it would be remarkable if it did not take precedence. He is the organizer of professional architectural teaching in American colleges, and was himself a student of the late Richard M. Hunt, the first American architect to establish a studio of architecture after French models. It is not to be wondered at, therefore, that Mr. Ware's teaching should be in line with French methods, or that the other schools should be influenced by Mr. Ware's example. It would not require much stretch of imagination to suppose that these drawings were all from one school. The influence of the French academy is now stronger in America than in Hunt's time, but it is strong outside of France *only* in America. To say nothing of style, the method of rendering is still thoroughly French, and suggests an affectation that has nothing to do with the study of architecture. Why cannot our able professors of architecture exert a little American independence in this matter of rendering, and avoid much waste of time devoted to unessential accessories, elaborations of plans, as well as the destruction of good paper? No practicing architect can afford to use these elaborate expedients. When the student escapes from the school he runs wild on impressionist rough sketches, as if to express his emancipation from the discipline which he has endured. This is fully illustrated on the walls of the large room. Then when he comes down to the hard work of life, he drops both and finds that he has little enough time to express his ideas in firm lines of clearly defined detail emphasized by strong and simple shadows. This is shown in the exhibits of some of the more advanced professionals, as in those of Ernst Flagg, for instance. We mention him because he is still a strict adherent to the French traditions of style.

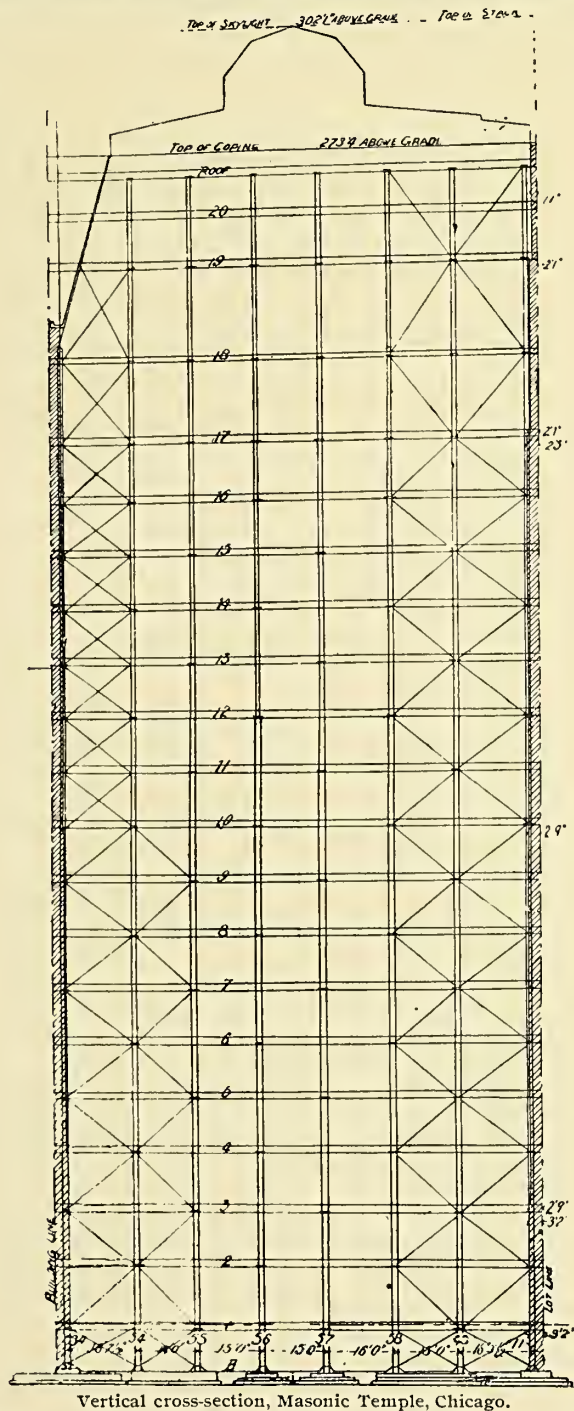
Before this appears this interesting collection of drawings, photographs and models will be scattered; but the exhibition will have served as a text for the above observations which might be extended *ad libitum*. The club is on the right track and doing excellent work. It is not unworthy of the great city of which it is one, and not the least, factor in its intellectual growth.

THE MODERN OFFICE BUILDING.*

BY BARR FERREE.

PART II—Continued.

THE utmost diversity exists as to the structure and the detail of the supporting frame in the skeleton construction. This variety is dependent, in a measure, upon the special conditions arising in each building; but it is largely due to the individual preferences of the designing engineer. No extended series of tests have ever been made as to the relative merits of the various columns, girders and beams employed in modern work, though special tests have been made in some particular instances. Nothing in the way of comparative tests has, however, been made. As a matter of fact, therefore, the use of certain forms depends more on the preference of the engineer and the adaptability of special shapes than upon an absolute knowledge of their intrinsic merits. Although the details of the construction frequently differ widely in buildings employing the same structural methods, certain general principles underlie the selection of the section of the



columns. These principles have been well elucidated by Mr. C. T. Purdy, who has designed the steel frames of many of the notable buildings of Chicago. According to this authority, the advantages to be considered in a building column are: (1) cost and availability; (2) shopwork and workmanship of column; (3) ability to transfer loads to center of column; eccentric loading; (4) convenient connections of floor systems; (5) relation of size of section to small columns; (6) fireproofing capabilities of the section.

Many sorts of structural columns are upon the market, each having its supporters and its particular advantages. The conditions under which these columns are used are so exacting and so

*A lecture delivered before the Franklin Institute, November 15, 1895.

varied, that of none of them can it be said that is *the* column to use in all circumstances. Local conditions and cost and availability are more likely to determine the selection of a particular column, especially of a type that has long been in use, rather than some of the newer types, whose advantages may be offset by an increased cost, or, if it is a patented column, by the difficulty of securing it when wanted. In the following table the commoner sorts of columns are named and classified by the number of rows of rivets each requires.

One row : Larimer column.

Two rows : Z-bar column without covers.

Four rows : Channel column without plates or latticed ; 4-section Phoenix column ; Gray column ; Keystone octagonal column.

Six rows : Z-bar column with single covers.

Eight rows : Box column of plates and angles ; latticed angle column ; 8-section Phoenix column.

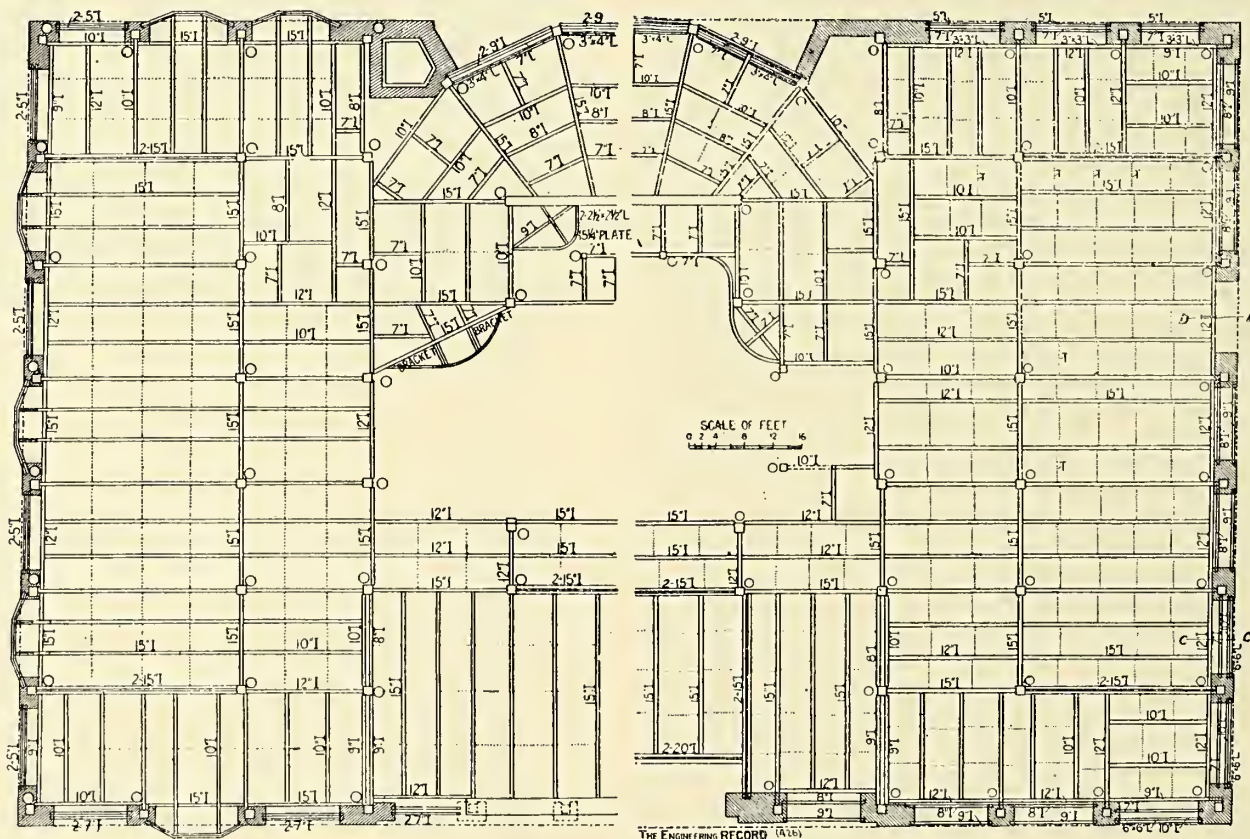
Ten rows : Z-bar column with double covers.

In addition to these shapes, compound or complex columns are used under special circumstances. Special forms of the standard types have also been introduced to meet special requirements.

All these columns are now made in wrought-steel. Prior to the introduction of this material into building operations, columns of cast iron were employed. These are still frequently used, but modern engineering practice does not encourage it. While this

lateral dimensions, it is frequently omitted. The Masonic Temple, Chicago, of twenty-one stories, 273 feet high, and 19,224 square feet area, is provided with a system of rod-bracing inserted at each side of the elevators. The Stock Exchange, of the same city, on the other hand, of thirteen stories, 173 feet high, and with a floor area of 18,000 square feet, has no wind bracing whatever. As in every department of the mechanics of high building, engineering practice differs greatly on this point, and much difference exists, not only as to the methods of resisting the wind forces, but even as to their amount and application.

Four general methods are in ordinary use, though the details of application frequently differ. These are : (1) sway-rods, or diagonal braces, connecting the columns diagonally between single floors ; (2) the same, running through two stories, cutting the intermediate girder at the center of the diagonals (both systems are used in the Masonic Temple, Chicago, the sway-rods being connected with I-beams between the columns and below the floor system) ; (3) portal arches (Old Colony Building, Chicago) ; and (4) knee-braces, not an advantageous form (Isabella Building, Chicago ; also, in a modified form, in the Fort Dearborn Building). The steel frame is sometimes braced by making the joints of the columns, usually in two-story sections, break at alternate stories (new Havemeyer Building, New York). The value of this method is, however, problematical. The selection of the type of wind



Beam plans and details of framing, Masonic Temple, Chicago. Half plan of second floor to left ; half plan of fourth floor to right.

material has some advantages, it is very uncertain, and its liability to fracture renders it dangerous to use.

Although the particular section of the column in high buildings is without influence upon the design, some representative buildings are grouped below as illustrative of recent methods.

Cast Columns.—Chicago : Manhattan, Leiter, Tacoma, Auditorium, the Rookery, Phoenix, Owings, Unity — all relatively early high office buildings.

Z-Bar Columns.—Chicago : The Fair, Y. M. C. A., Isabella, Pontiac, Caxton, Venetian, new Monadnock (skeleton part), Champlain, Marquette, Stock Exchange, old Monadnock, Great Northern Hotel, Woman's Temple, Ashland Block, Marshall Field, Rand-McNally, Boyce, Hartford, Columbus Memorial, Atwood ; Pittsburg : Carnegie.

Z-Bar and Phoenix Columns.—Chicago : Old Colony (special shapes), Schiller Theater.

Box Column of Plates and Angles.—Chicago : New York Life.

Channels and Plates.—Chicago : Fort Dearborn (lower floors of plate and angles, then channels and plates ; upper stories of latticed channels).

Plates and Angles.—Chicago : Masonic Temple, Teutonic.

Gray Columns.—Chicago : Reliance, Fisher, Steinway Hall ; Columbus, Ohio : Wyandotte.

Larimer Columns.—Chicago : Newberry Library (not an office building).

Cast Iron and Riveted Columns.—New York : Manhattan (cast columns to sixth floor).

In buildings of great height and relatively small area, the steel frame of columns and girders is not usually considered sufficient to resist the force of wind pressure. The frame is, therefore, often braced, though in low buildings, and in high ones of large

bracing will depend, to a very considerable extent, upon the openings of the building, the location of the doors, partitions, and the like.

The skeleton frame is, by its construction, a well-braced structure. It is not remarkable, therefore, that only the slightest vibration and deviation from the perpendicular have been noted in the best-built office buildings, even the highest. Some very careful observations made in the Monadnock Block, Chicago, showed a very slight vibration in heavy windstorms.

The construction of the floors of office buildings, including the size and dimensions of the girders, their connection with the columns, the filling-in of the spaces between the girders and beams, and the laying of the floors, require as much care and forethought as the erection of the columns. In designing floors, the engineer has to consider the dead loads, or permanent weights of the building, and the live loads, or movable weights. These factors are treated in the building laws of our leading cities, and the scientific phases of the loading of the beams have been carefully studied, and the results tabulated in many engineering publications.

The stability of the frame, as well as of the floor itself, depends largely upon the advantages for good connections provided by the section of the column ; and this, as before remarked, is one of the important considerations that must be taken into account in determining the class of column to be used.

Although the utmost diversity exists in the manner of filling in the spaces between the beams of the floor, arches of fire-clay are now almost universally used. They are fireproof, waterproof, have a flat upper and lower surface, are lighter than the solid brick arch, are free from shrinkage, can be made of any depth, and may be used for large and short spans. Soft tile or porous terra cotta, a mixture of clay, sawdust or other combustible

material, is much used for floor arches. Concrete is also employed, but brick is now seldom used. Combination floors, of iron troughs and concrete, known as the Pencoyd corrugated flooring; or of iron or steel arches and concrete, in the system invented by Mr. Poulson; or wire and concrete, in the Roebling system; or wire and composition, in the Metropolitan system; or corrugated iron and beams are also used, as well as a Spanish method known in this country as the Guastavino tile arch, in which the floor arches are made of thin tile cemented together in a solid mass. In all these systems, except the last, which is patented, a variety of forms and devices in making the arch have been introduced.

Without entering into a discussion of the various sorts of floor arches now used in the office buildings, it is sufficient to remark that a typical floor consists of flat arches between the beams, covered on top with a layer of concrete, upon which wooden sleepers are embedded, which, in turn, are covered by a hardwood floor. In the hollow space underneath the floor-boards the gas and water pipes are placed.

In designing the steel frame, an essential point the engineer must keep in view is its inclosure within a fireproofing material. Properly braced, and often without additional bracing, the steel frame offers every requirement of stability; yet, unless it is incased within fireproofing, sufficiently thick to prevent injury to the metal by fire, or by the introduction of water, it fails in the first element of availability. This, indeed, is the crucial test of the stability of the modern office building. Structurally, though the problems are frequently complicated, there is nothing in any part of the work that modern engineering practice is not thoroughly competent to handle. It has not, however, yet been demonstrated how long these buildings will endure. It is true the skeleton system has been used too short a time to enable any practical experience to throw any light on this point; but it is strange that no attempt has been made to examine the state of the metal in the older buildings of this type.

The question is of more moment since the modern office building is a structure whose period of existence is intended to far outlast that of the buildings it replaces. The amounts now invested in them are so large that nothing short of an almost permanent duration can render them profitable.

So far as present experience goes, the modern office building has amply satisfied all the claims made for it, when the construction has been good and thorough, and of the most approved type. It has been demonstrated several times (fires in Temple Court, Edison and World Buildings, New York; Athletic Club, Schiller Theater, Chicago) that fires originating in one place can be confined to the room in which they occur, or, at the farthest, to the adjacent apartments. It has been shown, also, that, even where the fire has been a severe one, as in the Chicago Athletic Club, the structure of the building can escape without serious damage. On the other hand, early and imperfect methods of fireproofing, as in the Manhattan Savings Bank, New York, are almost as unsatisfactory and as useless as no fireproofing at all.

The most zealous opponents to the high buildings are the fire departments. It is doubtless true that the fire departments of all our great cities would be unable to cope with a destructive fire in a very high building, owing to the lack of water-pressure and the absence of special apparatus designed for use in such emergencies. On the other hand, the necessity of protecting these buildings against such dangers has certainly resulted in very considerable improvements in their erection, which have been manifested, not only in high buildings themselves, but in less costly structures. There can be no question at all but that the average of fire-resisting qualities in our modern cities has been greatly increased since the introduction of the skeleton system of construction, just as it is equally certain that these buildings are the safest structures we have, in any sense. This fact is generally overlooked by the fire chiefs in their criticisms on these buildings, and by popular critics who are not always disposed to accept them at their true worth.

The danger the office building is most subject to is not from within, but from without; that is to say, from the older and smaller buildings immediately surrounding it, or what is called the "exposure risks." There can be no question at all but that the safety of our cities is greatly increased by the continued erection of modern office buildings.

(To be continued.)

THE SUPERVISING ARCHITECT'S OFFICE BILL.

THE following circular letter is issued to the public by the committee in charge of the Aldrich bill now before Congress, and gives a clear statement of the importance of the bill to the general public and individuals as well, asking general coöperation in securing its passage:

NEW YORK, March 24, 1895.

DEAR SIR,—It is well known to every public-spirited citizen, and especially to those interested in matters of art, that the present system of designing and erecting the federal buildings of the United States through the agency of the Supervising Architect's office at Washington is the outgrowth of an antiquated and inadequate method, which should have been changed long ago.

The absolutely unsatisfactory results of the present system are apparent to us in the lack of originality and artistic merit of our public buildings, which are constructed after a set pattern, at an expense greatly exceeding the cost of the same class of work and demanding at least three times as long to construct as when built by private enterprise.

Various attempts have been made by the profession, by legislation and otherwise, to remedy these evils. The last attempt was the introduction in the fifty-third Congress of the "McKaig" bill, entitled "A bill to provide for the securing of plans and for the erection of the public buildings of the United States."

This bill provides for the creation of an expert commission, appointed by the President, with the approval of the Senate, to have charge of the architec-

tural work of the government; to select designs, in competitions to be conducted by this commission, for each new building, and to appoint the architect of the building, as in private practice, leaving the Supervising Architect as the representative of the government in all matters connected with the erection and completion of the buildings, and the payment therefor.

In other words, this bill proposes, by a system of competitions, conducted under proper authority, to obtain for our federal buildings the very best designs and the very best architectural skill now available, relieving the Supervising Architect's office entirely of the duty of designing, but leaving the supervising architect in charge of the work as the representative of the government in all matters of business or general supervision.

The federal buildings would then be under the charge of leading architects in the different sections of the country where they are to be erected. They would become individual to the locality and the outgrowth of the same, not only in design, but in construction and materials. They would also receive constant supervision, and would be built as promptly and as economically as buildings for private individuals.

The Supervising Architect would become the supervisor of the architects commissioned by the government; his duties would be simplified in one direction, and thus give him more time to attend to his important duties in other directions. He would also be able to devote much of his time to collecting and diffusing valuable statistics and information concerning materials and many other matters pertaining to building, so that the profession at large would be able to draw upon Washington for general information, as is now the case with engineers, agriculturalists and other important bodies.

Such a bill must result in better and more prompt and economical methods for the government, in better and more beautiful buildings for the public, and also in raising the standard of architecture, both artistically and otherwise, in the United States.

The "McKaig bill," though drawn at the suggestion of the Secretary of the Treasury and revised by him, was defeated for political reasons. It has been reintroduced in the present Congress and the outlook for its passage is very favorable.

The architects of the country have devoted much time to this work, and have so far subscribed all the necessary funds for legitimate purposes in introducing and promoting the bill. They find, however, that the work of promoting the bill in a perfectly legitimate way requires ample funds, which they are not in a position to furnish entirely, and they have further found that they are taxed with selfish motives in promoting the bill.

As it is a matter which should interest every public-spirited citizen, as stated above, and which from a business point of view will benefit every individual community where federal work is contemplated, by affording each community the opportunity of erecting its own buildings with local materials supplied by local people, the whole building being under local influence, instead of the present system, where everything is centralized in Washington, to the benefit of a few large contractors who control to a great extent the work and the supplies, not only ignoring local requirements, but in most instances thrusting aside excellent opportunities for local development, it has been decided by the committee in charge of the bill to appeal, through the architects of the country, to the public at large for subscriptions for the purpose of furthering the interests of this bill. Such subscriptions will be not only of material aid, but they will give the bill a very strong moral support, by proving that the public at large is interested in its passage.

Yours respectfully,

GEORGE B. POST, Chairman.

BRUCE PRICE.

ALFRED STONE.

ROBERT STEAD.

JAMES G. HILL.

JOHN M. CARRERE, Secretary,
44 Broadway, New York.

NOTE.—As prompt action in this matter is of the greatest importance, I appeal to you for immediate support, and request that you send your contribution to me at your earliest convenience, should you care to help this cause.

..... Name.
..... Address.

To Mr.

NEW PUBLICATIONS.

WE have received the "Proceedings of the Fifth Annual Convention of the Association of Railway Superintendents of Bridges and Buildings." It is full of information, most of which would not interest an architect, but there is one article that might, "The Report of the Committee on Strength of Bridge and Trestle Timbers," which gives the most recent information with regard to the strength of timbers in common use. This paper will interest architects, as well as others who need to know the strength of timbers.

MODERN STONECUTTING AND MASONRY. By Siebert & Biggin. New York: John Wiley & Sons, 1895.

This is a little book on stonecutting which includes only such work as is in common use, and it so states in the preface. It gives the nomenclature of the American Society of Civil Engineers, and a brief description of the different kinds of masonry. In the main the work consists of fourteen plates (with descriptive letterpress) commencing with a "Gothic Buttress" and ending with "Entrance and Porte Cochère." It might be termed "An Elementary Treatise on the Stonecutting in Ordinary Practice," and is evidently intended for schools and colleges. It has the merit of being simple and direct. While embracing but a small portion of the science, it embraces the largest portion of the practice. Its very brevity is a great merit. It is much better that a student thoroughly understands what he learns, even though what he learns may not be of large extent, than that he shall roam over a wide field without thoroughly comprehending the ground he goes over. One of the vices of school-teaching of the present day is the attempt to have a general and extensive instruction, when there is scarcely time for a student to thoroughly obtain even an elementary one. From a cursory examination, we should say it is well adapted to its purpose. It very properly refers those who wish to make a specialty of the science to other and much larger works. We hope it will not pattern after many other books that in successive editions it will not keep on growing until it loses the merit it now possesses. It is an excellent work, and we can sincerely recommend it.

THE growth and enterprise of the Baltimore & Ohio Railroad, which has been constant since the first steam locomotive was built and operated upon it, has been crowned by the enormous engineering feat just accomplished at Baltimore in the construction of a double track tunnel two miles long under the city and thus securing a terminal in the heart of the business section.

THIRTIETH ANNUAL CONVENTION A. I. A.

CIRCULAR OF INFORMATION No. 1.

The thirtieth annual convention of the American Institute of Architects will be held at Nashville, Tennessee, on Tuesday, Wednesday and Thursday, October 20, 21 and 22, 1896, at which time the buildings for the Centennial Exposition will be completed and the Institute will, as guests of the state, of the city, of the Chamber of Commerce and of the Tennessee Centennial, be afforded unusual and favorable opportunities to visit objects of interest in the city and to visit and inspect the centennial grounds and buildings, without the disadvantage of their being filled with exhibits, as the opening of the exposition has been postponed to May, 1897, and without the presence of the crowds of sightseers to interfere with the deliberate and professional examination which will thus be afforded to visiting members.

The full details of the programme will be announced in future circulars, but I am at this time requested by the Committee on Education to make the following announcement:

The report of the Committee on Education, submitted at the last convention of the American Institute of Architects, held in St. Louis, sets forth a proposition to invite a general discussion on some subject involving the higher interests of the profession; this discussion to be made a part of the business of the next convention, and, if successful, to be continued as a regular feature of the succeeding conventions.

This proposition met with such acceptance that the Committee on Education is encouraged to propose to the members of the Institute, as the subject to be discussed at the next meeting in Nashville, the following:

THE INFLUENCE OF IRON AND STEEL CONSTRUCTION AND OF PLATE GLASS ON THE DEVELOPMENT OF MODERN STYLE.

It is the purpose of the committee to request a limited number of members to prepare brief essays on this theme, the reading of which would open a discussion, which the committee hopes may then become general, every member, by this timely notice, having ample time to set his ideas in order for the debate.

It is expected that especially favorable arrangements will be made to secure reduce rates, and that a large number will thus be enabled to attend the convention, and it is hoped that this early notice will induce the Fellows of the Institute, in planning their yearly outing, to arrange to attend the convention and that they will go prepared to take part in the discussions and to contribute from their own experience and practice some thoughts on the practical or aesthetic side of a question which is of necessity to play such a prominent part in the future development of architecture in this country.

Mr. Henry Van Brunt, of Kansas City, is chairman of the Committee on Education, to whom all communications relating to the discussion of the subject should be addressed.

The president has appointed Mr. William C. Smith, George C. Mason and the secretary a Committee of Arrangements for the coming convention.

PROVIDENCE, March 30, 1896.

ALFRED STONE, Secretary.

OUR ILLUSTRATIONS.

A Chicago Residence.

Business Building, Detroit, Mich. Mason & Rice, architects.

Business Building, St. Louis, Mo. Fames & Young, architects.

Residence of R. M. Wells, Chicago. Beers, Clay & Dutton, architects.

Iron Gate for Mrs. Vogel Hotz, Rechberg, Zurich, from drawing of Louis Lott.

Courthouse for Crawford County, Indiana. Oliver W. Marble, architect, Chicago.

House for A. L. Levy, New Orleans, Louisiana. Charlton & Pruitt, architects.

Residence of Dr. E. Fletcher Ingalls, Chicago. Holabird & Roche, architects.

St. Boniface Parish School and Hall, Chicago. Rev. A. Evers, pastor. Schlacks & Ottenheimer, architects.

Adopted Design for Library and Museum Building for the State Historical Society of Wisconsin, Madison, Wisconsin. Ferry & Clas, architects, Milwaukee, Wisconsin.

House at Fredericton, New Brunswick, Canada, for T. Carleton Allen. R. Brown, Jr., architect, Boston. Some eighty odd miles from the mouth of St. John River lies Fredericton, the capital of New Brunswick. The town is pleasantly situated on a bend of the river, and, although somewhat regularly laid out, the fine avenues of old trees of luxuriant growth dispel all feeling of monotony in the thoroughfares. The house illustrated is built on a site overlooking the cathedral grounds. The cathedral, by the way, is a fine piece of Gothic architecture, built many years ago from the design of Butterfield, the English architect. In course of time the stonework has become gray, and with the tall and graceful form of the elms in the cathedral close, the building forms a picture which recalls similar scenes in old England. In the town itself, one finds a few interesting houses here and there, mostly of what we should call a simple "Colonial" type. So this, as far as any style went, was all that was aimed at in the new house—to make it simple enough to fall in with the surroundings. The house measures 56 feet 6 inches long by 30 feet six inches wide. The height of the lower story is 9 feet in the clear, and the upper story is 8 feet 6 inches in height. The inside of the framework is lathed and plastered twice in two distinct thicknesses, separated by furring. The heating is a direct-heating hot-water system. The interior finish of the several rooms is chiefly painted, except in the halls, staircase and dining room, where the wood is stained and polished. Some of the windows are glazed in parts with stained and colored glass.

Photogravure Plate: View in Residence of Mrs. Babcock, Kenilworth, Illinois. George W. Maher, architect, Chicago.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

View in a Chicago Residence.

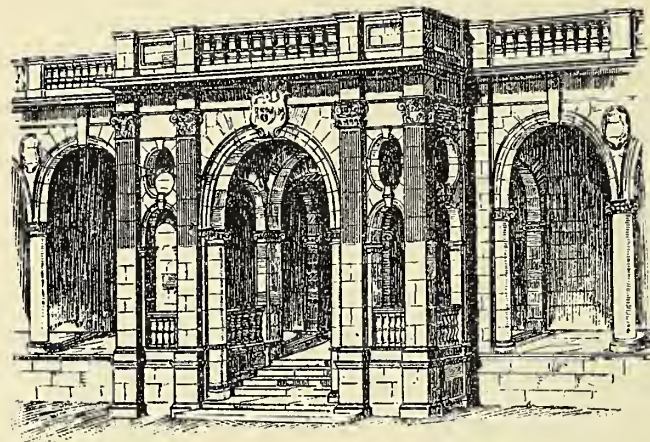
View in a Chicago Residence.

Assembly Room, Chamber of Commerce, Rochester, New York. Nolan, Nolan & Stern, architects.

View in Hall, Residence of J. C. Brocklebank, North Edgewater, Chicago. George W. Maher, architect.

Building for Drivers' Safe Deposit Company, Chicago; Charles S. Frost, architect. The following full-page plates are given: Exterior View in Banking Room, View in Lodge Hall.

A STORY OF STONE



NATURE takes her time. It may be a minute or a million years, but she never hurries. When she makes a gnat, which shall beat its little life out in a single day, she acts quickly; when she makes granite, which is to endure for ages, she takes ages for the making. Gnat or granite, the work is all done according to a well-conceived plan, of which time is an essential element. Such has been the process since time began, such is it now and such it will be until time shall cease, for while the history of the universe as revealed to us in the remotest rock pages of old earth herself shows that the creation of animal, vegetable and mineral growth has always been the result of certain forces in conjunction with unvarying methods, present investigations as clearly demonstrate that the same forces are now at work and the same methods are still being employed to the same ends.

Geologists tell us that nature works her marvels in stone through the medium of chemical laws which are as unalterable as the universe itself. These laws must have been formulated before the earth came into existence; they have continued to operate ever since and may be observed in actual work at present. We may not know why it is that certain solids or gases have a strong chemical affinity for certain other substances. We merely know the facts from observation, and must be content without asking the whys and the wherefores. But we can turn back the pages of geological history to the earliest ages and there read records which conclusively prove that the common everyday chemical changes of the present were at work long before the rocks and the mountains had been conceived or brought forth.

The calcareous rocks are very excellent example. In this class is included every kind of rock composed of carbonate of lime and also chalk. It is a curious fact that chalk differs from limestone only in texture, both being formed by the same chemical combination. The same may be said of all the other rocks of the calcareous group—oolite, limestone, marble and calc-spar. The basic principle is carbonate of lime in combination with the decayed shells at the bottom of the ocean. All are formed by similar chemical action, varying only in the materials employed and the circumstances of location, pressure, etc. It can scarcely be believed that the beautiful Carrara marble, which from its uniform texture and enduring polish is selected as the material par excellence for statuary, is of the same chemical formation as chalk, yet this is true; and the most intimate relationship exists between Carrara marble and the celebrated oolitic limestone, so that the qualities of both are largely identical. Thus, without violating any chemical law and by the employment of a single simple method, does Nature produce, with a slight change of materials and environments, the chalk cliffs of England on the one hand and the magnificent marbles of Carrara and the famous oolitic limestones of Indiana on the other.

Limestone is of such varying texture and quality as to be practically limitless in its uses. The common variety is fit only for common work, such as macadamizing, curbing, sidewalk and foundation building. For these purposes there is a great abundance of this useful stone. In fact, so common is it that a really excellent limestone is the great exception rather than the rule. The quality of each rock depends on two circumstances, namely, the nature of the organisms from which it is formed and the chemical conditions of the water in which they were deposited. But this is anticipating. It will be necessary first to consider the exact process by which our present beds of limestone were deposited in the ocean depths of ages past.

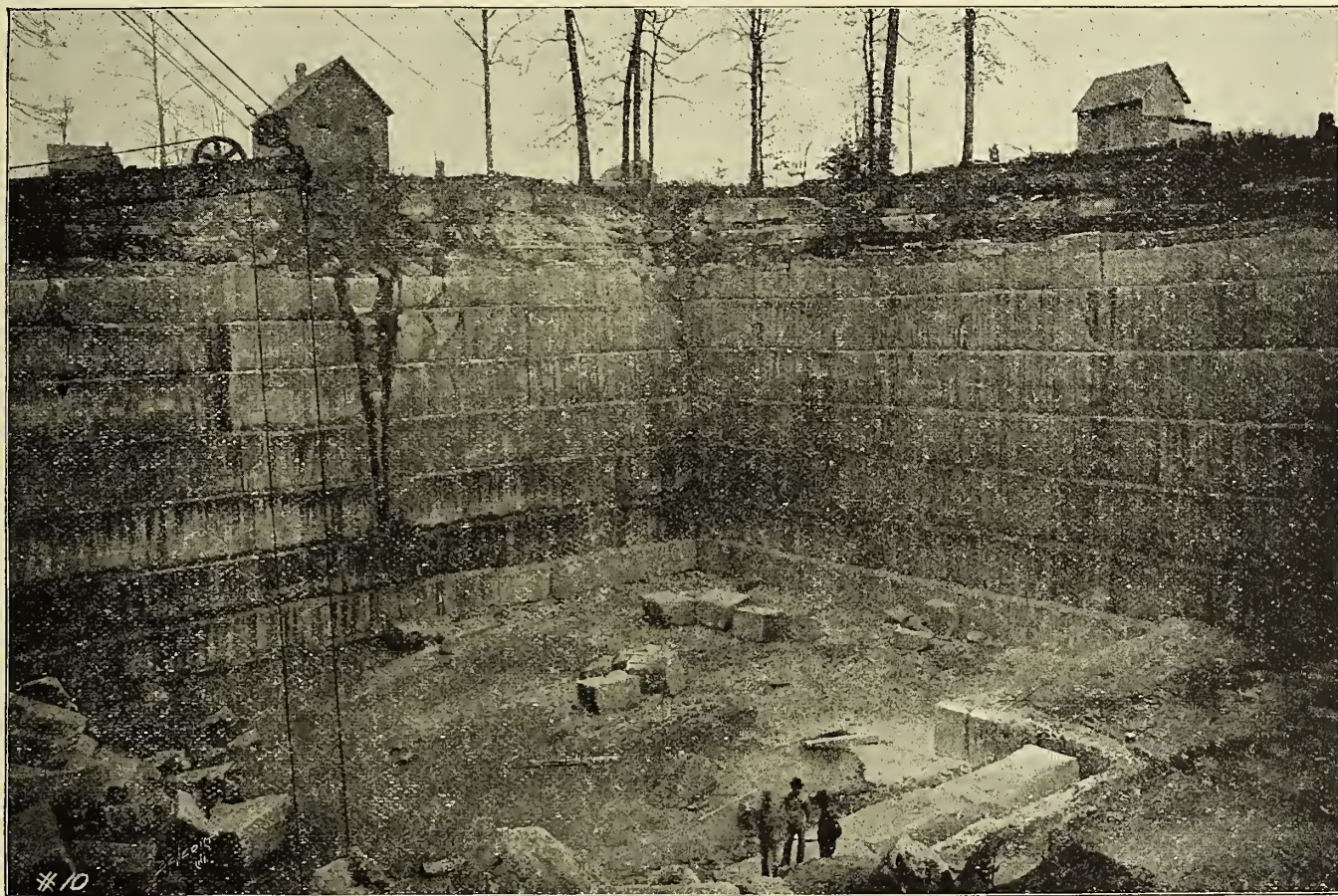
It is a peculiar quality of corals, shells and marine shellfish of all sizes that they extract the carbonate of lime from the sea-water which they inhabit. The bottom of the sea is thickly strewn with shells and corals; these in time become more or less perfectly pulverized, and the chemical action of the carbonate of lime which leaves the water to join the shells, glues them together, as it were, into a more or less homogeneous and solid mass. This, after ages of accumulation on the bottom of the ocean, is upheaved by volcanic action, and at the close of the nineteenth century of the Christian era, is quarried at the command of the architect or engineer, to be devoted to decorative or practical purposes.

Common limestone is of poor or ordinary texture, according to the nature of the shells of which it is composed. Where there are large shells which are but imperfectly pulverized, the rock contains fissures or pockets, and frequently the shells themselves, or, rather, their fossilized remains, are found completely embedded. While these may be of great interest from a geological standpoint, they totally destroy the value of the stone for the most highly useful or ornamental purpose. It is to the finer and more even textures among the limestones that we must look for substantial excellence.

The oolite, or roe-stone, is so called on account of its resemblance to the roe, or spawn, of a fish. Geologically, it is a product of the secondary period. Oolites are supposed to have been formed from a deposit of calcareous sand, the product of disintegrated corals, which, having been raised above the surface of the sea, either by an upheaval or by subsidence of the waters, was then subjected to rain. Now, rain water, during its fall through the atmosphere, becomes charged with carbonic acid, and this acid in solution, penetrating the calcareous sand, dissolved the carbonate of lime of the surface layer and deposited it on the deeper layers, cementing them in an almost indissoluble union. At the same time all foraminifera remaining were dissolved out by the acid before the entire mass hardened. So in this beautiful shore forma-

loosely cemented together. Upon careful examination with the glass, however, this grain proves to be infinitesimal shells and shell fragments all bound together by a firm and even setting of lime carbonate. No art of man could construct a mass at once so firm, even and workable and at the same time so elastic and strong. The stone comes from the quarry soft, tough and easily cut. In a short time it hardens so that it rings with a musical note (like that from a steel bar) when struck with a hammer. A bar of four feet in length and two inches square may be bent so as to deflect greatly, and when released will spring back to a right line with the promptness and energy of highly tempered steel. Upon being broken the stone parts with a smooth, direct fracture, showing a surprising evenness and continuity of texture, with no trace whatever of laminations, seams or changes of structure."

The quarries of the Bedford Quarries Company are situated upon the very crest of Buff Ridge, where the necessary stripping, which consists of from two to eight feet of soft earth, is easily removed, exposing to view incalculable millions of feet of the identical stone which has achieved a reputation coexistent with the continent. Their first quarry, the "Old Hoosier," was opened in 1879, and has since produced such immense quantities of stone that its reputation has gone wherever Bedford stone is known. The company believes, and they are not alone in the opinion,



ONE CORNER OF THE HOOSIER QUARRY—FORTY TO SIXTY FEET DEEP.

This picture of the Old Hoosier has been selected as one of the best representatives of the Bedford quarries, having been worked to a depth of sixty feet.

tion, thousands of years before man's footstep first trod the earth, Nature prepared the oolitic limestone, of even and close texture, strong, beautiful and in every way fitted for the most enduring and artistic service of the latest generations of the human race.

The largest and finest bed of oolitic limestone in the world is at Bedford, Indiana. Here are the quarries of the Bedford Quarries Company, from which great quantities of stone have been taken for use in the construction of notable buildings all over the United States. The quarry district of Bedford is located about four miles northwest from the city, in what is known as Buff Ridge, a district about one mile wide and three miles long. Exactly in the geographical center of this ridge, and at a point where the deposit of stone shows an unbroken depth of from forty to sixty feet, are located the Bedford Quarries Company's lands. Here the stone is of a fineness and uniformity of texture which is unsurpassed, if, indeed, equaled by any similar formation in the world. It is remarkably free from defects, pure and even in its make-up, bright and beautiful in color, sufficiently elastic to prevent brittleness, and possessed of a cohesive power which renders it absolutely safe for any use to which stone can be put.

Prof. Maurice Thompson, in his annual report for 1888, writes regarding this group in part as follows: "The rock is an element of the St. Louis group, showing itself in a massive, evenly bedded stratum of homogeneous limestone, of a whitish gray color, whose grain, viewed casually, has the appearance of a rather coarse sand

that the "Old Hoosier" is the best oolitic limestone quarry in the world.

Actual tests, as well as observations, show that the Bedford stone absorbs little if any moisture. F. W. Clarke, chief chemist of the United States Geological Survey, immersed a two-inch cube of Bedford stone, weight 301.73 grams, one-eighth of the depth in water for twenty-four hours. After being air-dried for twenty-four hours it weighed 303.92 grams. The gain in absorbed water was 0.72 per cent. Moss does not grow upon the outcropping bowlders of Bedford stone, which can be taken as a sure indication that the stone does not absorb enough moisture from the atmosphere to sustain plant life. On pure oolitic limestone no growth of moss whatever can be found.

The density of Bedford stone, as shown by a number of reports, exceeds that of the celebrated Portland oolitic, quarried in the south of England, to which Bedford oolitic is often compared. The ratio of absorption of the English stone is one to twenty, while that in the Bedford stone is one to forty-two. That Bedford stone is the stronger of the two is shown in the fact that the reliable sustaining weight of a square foot of Portland stone is 82,000 pounds, while that of Bedford is not less than 135,000 pounds to the square foot. This is more than three times the weight on the piers of St. Paul's, London, and more than four times that on the piers of St. Peter's, Rome.

Among the many noteworthy buildings in this country which

have been built of stone from the quarries of the Bedford Quarries Company are the following: The American Fine Arts Society building, the Deever's mansions, the Constable building, the Mutual Reserve building, the Postal Telegraph building, the Hotel Majestic and the Presbyterian building in New York; the Manufactures Clubhouse, Philadelphia; the International Trust Company's building and the Algonquin Clubhouse, Boston; St. Martin's church and the Stensland building, Chicago; the beautiful residence of James F. Sinnott, Bryn Mawr, Pennsylvania, and St. Mary's Cathedral in Covington, Kentucky. These are but a few of the many important structures which herald the recognized beauty, durability and adaptability of Bedford stone.

A leading architect, in comparing the relative merits of different building materials, recently remarked: "As men separate the chaff from the wheat, in order to gain the purest flour and from it the finest bread, so the architect must eliminate from the materials selected for building construction those known to be defective or inferior, and keep only the best. Bedford stone is the wheat of the architect."

In concluding this brief and necessarily imperfect sketch of the Bedford quarries, we will only add that all whose business or pleasure brings them to the locality will find that a visit to the quarries will prove both interesting and instructive and well repay the traveler for the time and attention thus employed.

NOTE.—This is one of a series of articles intended to bring before our readers the many interesting facts regarding stone, reviewed from a scientific standpoint, and with reference to its practical value in construction, various purposes for which different classes of stone are adapted, and the best representatives of each class.

OBITUARY.

N. W. PRATT.

The untimely death of Nathaniel W. Pratt, president of the Babcock & Wilcox Company, which occurred in Brooklyn, New York, on Tuesday, March 10, 1896, is a cause for profoundest regret to the thousands of friends and acquaintances made by Mr. Pratt during an exceedingly active business career. Mr. Pratt was but forty-four years of age, but for twenty-five years he had been connected with the Babcock & Wilcox Company, and to his mechanical skill and great business sagacity is due the wonderful success of that company in all parts of the civilized world. It may be truly said that the best monument he leaves behind him is the world-wide fame of the Babcock & Wilcox boiler.

Nathaniel W. Pratt was born in Baltimore in 1852. His ancestors on both sides settled in Massachusetts in 1630. From his father he inherited mechanical tastes and abilities, as the elder Pratt, during the war, was superintendent of the Burnside Armories, in Providence, Rhode Island. Young Pratt entered the employ of Babcock & Wilcox in 1870, before attaining his majority, and was steadily promoted. In 1881 the Babcock & Wilcox Company was organized as a corporation. Mr. Pratt became treasurer and manager of the new company, which positions he held until the death of Mr. George H. Babcock, in 1893, when he was elected president of the company. His success was due to a rare combination of engineering knowledge and inventive genius with extraordinary business qualifications. While the business world at large knew him chiefly as an aggressive man of affairs he was also known to a large circle of friends as a gentleman of singular generosity and kindness of heart.

A single incident will illustrate Mr. Pratt's versatility. In 1884 he became consulting engineer to the Dynamite Gun Company. Under his designs and patents the first successful dynamite gun was built. It was with this gun, eight-inch caliber and sixty feet long, that the experiments in throwing aerial torpedoes were conducted at Fort Lafayette, New York.

WILLOUGHBY J. EDBROOKE.

Willoughby J. Edbrooke, who was Supervising Architect under the Harrison administration, died at Chicago on March 25, and was buried at Oakwoods cemetery, with the services of the Masonic Oriental Consistory.

Mr. Edbrooke left many monuments of his ability and his death will be sincerely mourned at Washington, where he made many friends during his official career. He was a native of Illinois, and was born September 3, 1843, at Deerfield, Lake county, where his father, a contractor and builder, had settled seven years before. The deceased descended from English ancestors who were among the provincial settlers of New England. His early education was obtained in the common schools. When he became of age he left the parental home and came to Chicago to complete his professional training, begun under his father's personal direction. He studied architecture under a number of prominent Chicago architects, and in 1868 went into business on his own account.

A few years later he formed a partnership with his brothers. Subsequently his brothers withdrew from the firm and Mr. Edbrooke continued in business alone. His first public position was that of commissioner of buildings under Mayor Roche.

In April, 1891, Mr. Edbrooke was appointed Supervising Architect by President Harrison. He designed the government building at the Columbian Exposition and the State Capitol building of Georgia at Atlanta. Probably his most notable works are the Notre Dame University structures at South Bend, Indiana, the courthouse of Geneva, Kane county, Illinois, and the Tabor Grand Opera House at Denver. His professional career covered a period of twenty-eight years.

Mr. Edbrooke was an inveterate hunter and he spent several months annually in the wilds of the northern states. He was

vice-president of the Illinois State Sportmen's Association and a director at the time of his death. He was also president of the Lake County Club, an association which owes its existence largely to Mr. Edbrooke's efforts. The Masonic fraternity claimed him as a past master. He belonged to no social clubs and was domestic in his habits.

ASSOCIATION NOTES.

SOCIETY OF BEAUX ARTS ARCHITECTS.

COMPETITION NO. 1.

The Committee on Education proposes as a subject for competition for the year 1896, a ferry house in New York city.

The ferry house is to contain: First, a large entrance vestibule; second, offices for the sale of tickets, bureau of information and newspaper booths; third, a large waiting room; fourth, waiting rooms and toilet rooms for both sexes; fifth, baggage rooms; there should also be two entrances for vehicles, and three ferryboat slips shown; sixth, a large clock for the use of the public, on the façade.

The elevation on the street shall not exceed 200 feet in length. The depth from street front to end of slips shall not exceed 500 feet, but is left to the option of the competitor. The second story may be devoted to offices. In contrast to existing examples, it is required that this building have an architectural character appropriate to its use and which will make it an ornament to the city.

A sketch on tracing paper of the plan of the first floor and of the main elevation, and a section at a scale of $\frac{1}{32}$ inch to the foot will be required of all students intending to compete, and should be addressed on or before April 30, to Mr. Albert L. Brockway, chairman, 55 Broadway, New York city. For the finished drawings there will be required a plan of the first floor and the principal section of the building, at a scale of $\frac{1}{16}$ inch to the foot, and the façade at a scale of $\frac{1}{8}$ inch to the foot. The drawings are to be rendered in water color, mounted on stretchers, and forwarded on or before July 1, 1896, to W. S. Budworth & Son, 424 West Fifty-second street, New York city.

(Signed)

ALBERT L. BROCKWAY, Chairman,
JOHN M. CARRÈRE,
JOHN G. HOWARD,
WHITNEY WARREN,
E. L. MASQUERAY,

NEW YORK, April 11, 1896.

Committee on Education.

NOTE.—This competition is restricted to students having obtained a medal or first, second or third mention in the competitions held during the year 1894-95, and to college students.

COMPETITION NO. 2.

The Committee on Education proposes as a subject for competition, A Public Mortuary Chapel in a Large Cemetery.

The chapel is to be situated not far from the main entrance to the cemetery, and on the crest of a slight eminence. The building must contain a vestibule, a chapel in which services are held, a sacristy, waiting rooms for attending family and clergy, and a crypt below chapel. The building must not cover more than 3,500 square feet. A scale drawing on tracing paper of the plan and elevation at a scale of $\frac{1}{16}$ inch to the foot will be required of all students intending to compete, and should be addressed on or before April 30, to Mr. Albert L. Brockway, chairman, 55 Broadway, New York city. For the finished drawings there will be required a plan of the building and immediate surroundings, and a section at a scale of $\frac{1}{8}$ inch to the foot, and an elevation of $\frac{1}{4}$ inch to the foot; also an interesting detail at one-quarter full size. These drawings are to be rendered in water color, mounted on stretchers, and forwarded on or before July 1, 1896, to W. S. Budworth & Son, 424 West Fifty-second street, New York city.

(Signed)

ALBERT L. BROCKWAY, Chairman,
JOHN M. CARRÈRE,
JOHN G. HOWARD,
WHITNEY WARREN,
E. L. MASQUERAY,

NEW YORK, April 11, 1896.

Committee on Education.

NOTE.—This competition is open to all students of architecture, conditions of judgment and jury to be arranged by the committee.

MOSAICS.

THE Powers Regulator Company have been awarded the contract for heat regulation in the Lewis Institute at Chicago. The Waters system of hot-blast heating will be used, and it is to be installed under the supervision of Mr. T. J. Waters, chief engineer Chicago Board of Education. The awarding of the regulation contract to the Powers company was based mainly on the excellent work which has been done by their apparatus in Chicago public schools. This company has also recently installed their system of temperature regulation in the Southern Hotel at St. Louis. Here three hundred and fifty rooms are individually controlled, and the guests enjoy the comforts of an agreeable and uniform temperature in their rooms. The Powers Regulator Company manufacture a full line of temperature-controlling apparatus, applicable to all systems of heating. And they will be pleased to correspond with interested parties.

AN interesting test of fireproof materials was made on the lake front in Chicago on the afternoon of April 7. Invitations were sent out by the Fireproof Door Company and the American Fireproofing Company, both of which concerns are represented in Chicago by Anson S. Hopkins. The Fireproof Door Company are manufacturers of the Richardson fireproof doors and shutters,

and for the purpose of exhibiting these a building was erected of tile, on one side of which was placed a double door and on the other a single shutter. The inside of the building was filled with wood and other combustible material, and soon after the match was applied it became a roaring furnace. The doors were not visibly affected. Their construction is such that heat cannot warp them, and even when very hot their thin outer shell of iron would not be likely to be seriously damaged by water suddenly thrown on them. To the spectators it seemed that the doors were the best part of the building. The heat was so intense that the tile work was somewhat displaced. At the same time a test was made of "Salamander" fireproof building-paper by the American Fireproofing Company. Three square wooden boxes were provided with smoke-funnels and filled with wood saturated with kerosene. One box was lined with the "Salamander," another with asbestos, and the third was unlined. The unlined and the asbestos boxes were quickly consumed while the "Salamander" box stubbornly resisted all attempts of the flames to destroy it for more than an hour after the others had succumbed. The test was quite satisfactory as demonstrating the desirability of "Salamander" paper for fireproofing purposes. This material is used extensively in the East as a lining for elevator shafts, etc., and is accepted as such by the building department and underwriters.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT, }
CHICAGO, April 10, 1896. }

The general conviction in commercial, manufacturing and financial circles is that business will be considerably better than last year, but that until certain questions affecting finance and trade are permanently disposed of no radical improvement is in sight. The fact stands out that the restricted volume of currency is affecting business; that silver is in increasing demand abroad; that the agitation concerning its international relation to gold is occupying the attention of the foremost thinkers on economic and fiscal policies on both sides of the water. The people on this side seem to be unsettled. Recent political strains show it. There is a cry for a change, a movement in the direction of reciprocity, a disposition to tie to those who represent vigorous protective sentiment. The people are aroused as never before. An enormous volume of idle money is awaiting employment. Investors are impatient, capitalists are weary of irregularity of employment of money. Promoters are weary of planning and waiting for the start to be made. Farmers hold on to two or three hundred million dollars' worth of crops. Railroad managers let their roads wear and tear out rather than lay out a needed hundred million or more to make their systems right. Iron and steel makers are crowding up prices before there is a demand to warrant. Smaller manufacturing interests are afraid to pile up stocks and yet are apprehensive of higher prices. Banks scrutinize paper closely and restrict loans. A sense of insecurity prevails without really good cause. Housebuilders have a brighter outlook than for years. Building operations this year will greatly exceed last year. Nearly all building material is a shade higher. Industrial combinations are being attempted, but they rather fail of their object. Lumber, brick, cement, shingles, lath, stone, are all held at firmer prices, though in some there is no actual advance. While things are not as good as they are desired, the influences are all working towards permanent activity and more remunerative prices. The trend of events is in the right direction. A healthy growth is apparent in all the minor industries. Speculators complain of lack of speculative opportunities and business men complain of restricted circulation of currency and narrow margins. The mistakes of the past will be corrected. There are thousands of enterprises projected; over twenty thousand miles of railroad building has been projected within a few months. Agricultural interests cry for better returns, but those who till the soil are, at least, holding their own. Taking all things into account, we see much to encourage, and but little to discourage us in the coming season.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Burlington, Iowa.—The Free Public Library invites plans for a library building, constructed of stone and cost not to exceed \$40,000. For description of lot apply to Carl Vogt, Secretary, Burlington, Iowa.

Buffalo, N. Y.—Architect C. H. Kelley: For Robert C. Hughes, a three-story store and flat building, to be built at the corner of Rhode Island and Utica streets; to be of brick with stone trimmings, have gas fixtures, mantels, plumbing, speaking tubes, hardwood finish, etc.; cost about \$60,000. For Dr. G. W. Gillette, a two-story, 47 by 83 feet flat building, to be erected at Tonawanda, New York; will be of frame, costing about \$16,000; the interior will be arranged for ten families in five-room flats; to be finished in hardwood, have electric bells, speaking tubes, bathroom outfit, refrigerators, steam heat, gas fixtures, and other improvements. For Lakeside Cemetery Association, of Erie, Pennsylvania, a frame mortuary chapel, to be built at Erie; to be 28 by 54 feet in dimensions, built in the Gothic style, with hardwood finish, stained glass, carved altar, etc.

Architects Loverin & Whelan: For Mrs. A. P. Wright, a two-story residence, to be erected on Oakland place; it will be built of pressed brick and frame, with bay windows, beveled glass doors, stained glass transoms, and dormer windows; the interior will have hardwood finish, fireplaces and mantels, grillework, speaking tubes, hot-water heat, gas fixtures, specially designed bookcase and sideboard, and electric bells; cost about \$10,000.

Architect August Eckenstein: For Masheco, Kolb & Co., a two-story warehouse and fish-packing building, to be erected on Eaton street near Jefferson; it will be of brick, the dimensions 40 by 100 feet; will have iron beams and columns, hollow tile, fireproof lath and tile floor; cost about \$10,000.

Architect W. W. Johnson: For the Harrisburg Club, a clubhouse, to be built at Harrisburg, Pennsylvania; to be of pressed brick and stone, three stories high, with a large roof garden; to have oak finish, hardwood floors, steam heat, dancing, billiard and card rooms, lavatories, etc., and will cost \$20,000.

Architects Phillips & Pentecost: For Frederick B. Robins, a five-story apartment house, designed in the Elizabethan English style; to have brown-

stone foundations, red pressed brick walls and ivory-white terra cotta trimmings; it will have forty suites of apartments, and a café to seat 120 people; the halls and corridors will be finished in oak; and electric elevator, rolling fire-doors, ventilators, ash hoist, skylight, steam heat, mantels, etc., will be used; it is to cost \$50,000.

Architect Robert A. Wallace: For Ambrose Bixby, an apartment house, to be erected on Niagara street near Hudson; to be four stories high, built of Vermont marble for the first story and the remainder of buff molded brick, with wrought-iron balconies and copper bays; the interior will have red oak, cypress and pine finish, beveled glass mirrors, oak mantels, fireplaces and furnace heat; cost \$30,000. For George Ginther, a \$12,000 residence, to be built on Virginia street near Edward; to be two and one-half stories high, of pressed brick and blue stone; the interior finish will be oak, maple and cypress; the structure will have electric bells, speaking tubes, stationary tubs, ranges and refrigerators, billiard room, etc.

Architect Walter W. Wade: For Hudson Brothers, a two-story double house; to be built on Niagara street; to be of frame, with hardwood finish, electric bells, furnace, gas fixtures, plumbing and stained glass; to cost \$9,000.

Architect C. R. Percival: For the Bethel Baptist congregation, a church, to be built at 172 Johnson street; to be of frame, Gothic style, with stained glass windows, hardwood pews, carved altar, pipe organ, bells and hardwood flooring; cost \$5,000.

Architect Carl Schmill: For the Church of the Transfiguration a church, 75 feet high with steeple 176 feet high; to be of pressed brick with trimmings of cut Medina stone, constructed with iron beams and columns, hollow tile, fireproof lath, patent plaster, etc.; interior to have marble and tile flooring, stained glass windows, oak altars and pews, decorative paneling, pipe organ, etc.; cost \$70,000.

Architect W. H. Archer: For the Mulholland Spring Company, of Dunkirk, New York, a three-story brick factory, to be 116 by 172 feet in dimensions, of brick and stone, with gravel and corrugated iron roof; to have automatic sprinklers, dumb-waiter, latest machinery, etc.; cost \$20,000.

Chicago, Ill.—Architect John P. Hettinger: Making plans for a five-story and basement apartment house, 106 by 50 feet in size; to be erected at the North Side; it will have a buff Bedford stone front, quartered-oak finish, mantels and sideboards, all open modern plumbing, marble wainscoting, mosaic floors, electric light, freight elevators, steam heating, etc.; the cost will be about \$40,000. Same architect is making plans for remodeling three-story building at Hudson avenue, into modern apartment house; will put in new sanitary improvements, gas fixtures, mantels, sideboards, hardwood finish, steam heating, etc.

Architect F. F. Townsend: For W. H. Ebbert, a three-story and basement residence, 26 by 77 feet in size; to be erected at Michigan avenue near Fifty-first street; it will be of buff Bedford stone front, have interior finished in oak, gas and electric fixtures, gas ranges and fireplaces, electric light, etc.

Architect H. B. Wheelock: For L. W. Johnston, a two-story, basement and attic frame residence, 28 by 40 feet in size; to have stone basement, hardwood finish, mantels, sideboards, gas fixtures, heating, etc. For W. E. Peck, a two-story and basement residence, 30 by 40 feet in size; to be erected at Evanston; to be of frame construction with stone basement, have oak interior finish, mantels, sideboards, gas and electric fixtures, laundry fixtures, electric light, etc. Also making drawings for Congregational church, to accommodate an audience of 335; to be erected at Wilmette; it will be constructed of pressed brick with buff Bedford stone trimmings, have slate roof, interior to be finished in oak, have gas fixtures, heating, etc. Same architect is working on drawings for a seven-story warehouse, 40 by 110 feet in size; to be erected at Milwaukee avenue and Canal street near Lake street, for Hunt Brothers; it will be of pressed brick and stone front, mill construction, have steam heating, electric light, elevators, engine, boilers, etc.

Architect Robert S. Smith: For L. J. Eastland, a handsome three-story and basement residence, 25 by 76 feet in size; to be erected at Michigan avenue near Fifty-first street; it will have a brownstone front, tile roof, the interior to be finished in white maple, quarter-sawn oak, cherry and mahogany, have special mantels, sideboards and consoles, electric light, hot-water heating; also two-story brick barn; cost \$20,000.

Architect George S. Kingsley: For A. R. Greifenhagen, a six-story and basement apartment house, 50 by 112 feet in size; to be erected at 551 Dearborn avenue; it will be of pressed brick front with terra cotta trimmings, have hardwood finish, mantels, sideboards, gas and electric fixtures, elevators, electric light, all open nickel-plated plumbing, gas ranges and fireplaces, steam heating. Same architect is completing drawings for a four-story store and flat building, 92 by 40 feet in size; to be erected at the corner of Washenaw avenue and Ogden avenue; it will be of pressed brick with buff Bedford stone trimmings, have hardwood interior finish, modern plumbing, gas and electric fixtures, steam heating, etc.

Architect C. E. Brush: Made plans for the Northern Illinois State Normal School, to be erected at DeKalb; it will be a very handsome building in the Norman Gothic style of architecture; the total frontage will be 375 feet and depth 200 feet, three stories high; to be of buff Bedford stone, fireproof construction, to be finished in quarter-sawn red oak, have marble wainscoting, mosaic and tile floors, decorated plaster-work, renaissance style, the modern sanitary improvements, heating and ventilation, electric light, laundries, etc.; the cost will be about \$250,000; there will be a large assembly hall to seat 1,000 persons; this hall will have a 25-foot ceiling and be constructed without any columns; there will also be gymnasium, swimming baths, shower baths, running track, etc.; also in the rear of the building a work shop. Materials are now being got on the ground and work will be commenced at once. Same architect is making plans for interior finish for the First National Bank at Mattoon, Illinois; will put in steel vaults, stained glass, skylight, mosaic floors, electric light, steam heating, mahogany finish, etc.

Architects Stiles & Stone: For Niel & Mahnke, a three-story flat building, 45 by 65 feet in size; to be erected at Fifty-sixth street and Michigan avenue; it will be of stone, pressed brick and terra cotta, have interior finished in quarter-sawn oak, marble entrance and staircase, all open plumbing, gas and electric fixtures, steam heating, etc. Also two other buildings adjoining above, one 50 by 65 and the other 90 by 50; all three to form one block.

Architects Patton & Fisher: Making plans for the Hachley Manuel Training School, to be located at Muskegon, Michigan; it will be a handsome three-story structure, 208 feet frontage with a depth of 100 feet; it will be constructed of pressed brick with stone trimmings and slate roof, have hardwood finish, the modern sanitary improvements, steam heating, electric light, power, etc.; there will also be a foundry, 50 by 75 feet in size. Also for F. Shumaker & Sons, a two-story and cellar store, 30 by 100 feet in size; to be built at Ortonville, Minnesota; to be of stone and pressed brick, have gravel roof, the necessary plumbing, etc.

Architect L. M. Mitchell: For Isaac Allshouse, a two-story flat, 25 by 57 feet in size; to be built at Argyle; to be of pressed brick and stone front, have the sanitary plumbing, gas and electric fixtures, mantels, steam heating. For J. Cockburn, a three-story flat, 50 by 57 feet in size; to be erected at the South Side; to be of buff Bedford stone front, have the interior finished in oak and Georgia pine, the modern plumbing, gas fixtures, mantels, steam heating. For Myron A. Decker, a three-story residence, 25 by 73 feet in size; to be erected at Douglas boulevard; to have a handsome front of buff Bedford stone, all hardwood finish, gas and electric fixtures, mantels, sideboards, laundry fixtures, steam heating, etc.

Architect L. G. Hallberg: For John Erickson, a three-story flat building, 52 by 70 feet in size; to be erected at Wilson near Ashland avenue; it will be of Bedford stone front, have the modern plumbing, gas fixtures, laundry fixtures, heating, etc. For Ogden, Sheldon & Co., a three-story lively stable, 100 by 100 feet in size; to be erected at Indiana street east of St. Clair; to be of pressed brick front with Bedford stone trimmings, have the necessary plumbing, etc.

Architect H. M. Hansen: For G. Bauer, a two-story basement and attic residence, 30 by 58 feet in size; to be erected at 337 Hampden court; it will be of pressed brick and stone front with slate roof, have interior finished in oak, birch and mahogany, the best of modern open nickel-plated plumbing, mantels, gas and electric fixtures, mosaic vestibules, electric light, etc. For A. W. Popp, a three-story and basement store and flat building, 48 by 77 feet in size; to be erected at the corner of Diversey and Best avenues; it will be of pressed

brick and stone front, have oak finish throughout, all open plumbing, gas fixtures, electric wiring, steam heating, etc.

Architect A. W. Buckley: Making plans for a two-story casino, 100 by 30 feet in size; to be erected at Mackinaw Island for the Highland House; also remodeling residence at Grand Rapids for D. A. Blodgett.

Architects Huehl & Schmid: For F. P. Randall, a four-story apartment house, 58 feet front at Barry avenue west of Evanston avenue; basement and first story to be of Bedford stone and above of pressed brick with terra cotta trimmings, have quarter-sawn oak interior finish, the modern plumbing, gas and electric fixtures, electric light, etc. For A. Mohr, a two-story residence, 30 by 50 feet in size; to be erected at Windsor Park; it will be of pressed brick front with stone trimmings, have modern plumbing, etc. F. B. Wolff, a three-story flat building, 25 by 50 feet in size; to be erected at Seminary avenue near Wellington; it will have a Bedford stone front, sanitary improvements, hardwood finish, gas fixtures, etc. Also two-story flat, to be built at Wilson avenue near Clark street; it will be 25 by 68 feet in size; have Bedford stone front, hardwood interior finish, etc.

Architect Charles J. Furst: For Eliza Seipp, six-story store and warehouse, 54 by 190 feet in size; to be erected at 250 to 252 Madison street, stone front, mill construction, plumbing, elevators, steam heating, etc.

Architect D. L. Pentecost: For Henry Schaeffer, a three-story and basement flat, 20 by 80 feet in size; to be erected at 3337 Dearborn street; to be of pressed brick, stone front; have modern plumbing, gas fixtures, etc.

Architect F. W. Kirkpatrick: For G. A. Foster, a three-story and basement flat building, 50 by 60 feet in size; to be built at Madison street near Albany avenue; to be of pressed brick with terra cotta trimmings, have the modern plumbing, gas fixtures, furnaces, etc.

Architect E. A. Blondin: Making plans for a one-story and attic residence, 20 by 43 feet in size; to be built at Central Park avenue near Twenty-eighth street; it will be of pressed brick and stone, have the modern plumbing, gas fixtures, mantels, furnace. For E. A. Muller, a three-story and basement store and flat building, 25 by 81 feet in size; to be erected at Twenty-second and Wood streets; to have a front of buff Bedford stone, Georgia pine and oak interior finish, sanitary improvements, gas fixtures steam heating, etc. For O. W. Ratch, a two-story and basement flat, 22 by 52 feet in size; to be built at Forty-first and Randolph streets; to be of pressed brick and stone front, have oak finish, mantels, gas fixtures, heating, etc.

Architect H. B. Wheelock: For C. H. Nichols, a four-story and basement apartment house, 66 by 91 feet in size; to be erected at 3547 to 3551 Ellis avenue; to be of pressed brick, stone and terra cotta front, have interior finished in oak and Georgia pine, the best of modern plumbing, gas and electric fixtures, electric light, steam heating, elevators, etc. For L. W. Johnston, a two-story residence, to be built at Edgebrook; frame, stone basement, plumbing, heating, etc.

Architect Frederick Ahlschlager: For Addisou, Illinois, two-story addition to Orphan Asylum, 50 by 80 feet in size; to be of brick, have hardwood finish, gas fixtures, modern sanitary plumbing, steam heating, etc. For John Merrill, a two-story and basement flat, to be built at Ninety-first street and Superior avenue, South Chicago; it will have a buff Bedford stone front, oak finish, modern plumbing. Also just began work on the three-story and basement dormitory, 55 by 96 feet in size, at Elmhurst, for the Evangelical Theological Seminary; it will be of pressed brick with stone trimmings, have the interior finished in Georgia pine, hard-oil finish, all the modern sanitary improvements, gas and electric fixtures, electric light, steam heating, etc.

Architect C. A. Strandell: For O. A. Wallin, a two-story and basement store and flat building, 24 by 80 feet in size; to be built at Alido, Illinois; it will be of pressed brick and stone, with galvanized iron, have mansard roof, steel ceilings in the store, modern plumbing, hot-water heating, electric light, etc. Also making drawings for a three-story and basement apartment house, 46 by 85 feet in size; to be erected at Adams street near Douglas Park; to be of pressed brick and stone front, have oak and Georgia pine finish, modern plumbing, slate mansard roof, gas and electric fixtures, laundry fixtures, electric bells and speaking tubes, cement side walls, steam heating, etc. For F. Lindquist, a three-story and basement flat building, 44 by 66 feet in size; to be erected at Roscoe boulevard near Evanston avenue; it will be of buff Bedford stone front, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, laundry fixtures, steam heating, electric light, etc. For John Auderson, a three-story and basement flat building, 25 by 90 feet in size; to be erected at 1546 North Clark street; to be of pressed brick front with buff Bedford stone trimmings, have interior finished in oak, all open modern plumbing, mantels, sideboards, steam heating, etc. For Frank Lindholm, a three-story and basement flat building, 25 by 56 feet in size; to be erected at 1835 Reita street; to be of pressed brick and stone front, have hardwood finish, mantels and sideboards, gas fixtures, heating, etc.

Architects D. E. & O. H. Postle: For Miss M. E. Haack a three-story flat building, 32 by 74 feet in size; to be built at 134 Fremont street; to be of Bedford stone front, have oak interior finish, mantels and sideboards, gas and electric fixtures, laundry fixtures, electric bells, speaking tubes, steam heating.

Architects Treat & Foltz: For Dudley and B. M. Winston, a six-story apartment house, 45 by 98 feet in size; to be erected at 135 and 137 Pine street; it will be of pressed brick front with terra cotta trimmings, have mahogany entrance, marble steps, elevator, electric light, steam heating, the best of sanitary improvements.

Architect A. G. Ferree: For M. McKluey, four two-story residences 75 feet frontage by 50 feet deep; to be erected on the South Side; to have a front of pressed brick with stone trimmings, the modern open plumbing, hardwood interior finish, mantels and sideboards, gas and electric fixtures, laundry fixtures, steam heating. Also making plans for a three-story apartment house, 45 by 94 feet in size; to be erected at Fifty-sixth street; the first story and basement will be of buff Bedford stone and the rest of pressed brick and stone, have hardwood finish, modern open plumbing gas and electric fixtures, steam heating. Also a two-story flat building, 24 by 50 feet in size; to be built at Indiana street; to be of pressed brick and stone front, have the modern plumbing, gas fixtures, mantels, steam heating, etc. For V. F. Terhuue, at Fifty-seventh and State streets, a two-story store and flat building, 25 by 50 feet in size; to be of pressed brick and stone front, have the modern plumbing, gas fixtures, etc.

Architect H. C. Cregier: For James A. Hart, at Sheridau Park, Ravenswood, a two-story frame residence, 30 by 46 feet in size; to be of brick basement, have hardwood interior finish, gas fixtures, mantels, heating, etc.

Architects Beyer & Rautert: For the Best Brewing Company, a two-story office, to be built on Fletcher street; to be of pressed brick and stone front, have plumbing, etc. For C. A. Koenig Brewing Company, at Auburn, New York, a five-story building, to have electric light, copperwork, steel beams, engine, boiler, pumps, etc.; cost \$35,000. For San Diego (Cal.) Brewing Company, a new plant and ice manufacturing plant, to cost \$100,000; to be of pressed brick and stone, have electric light plant, ice machines, engines, boilers, pumps, dynamos. For the Cauton (Ohio) Brewing Company, new brewhouse, boiler house, remodeling stockhouses, new washhouse, etc.; plumbing, ice machines, machinery, engines, boilers, dynamos, also barn to stable twelve horses; cost \$75,000. For M. Winter Brewing Company, at Pittsburg, Pennsylvania, a three-story barn, 80 by 40 feet in size; of brick and steel construction, to cost \$20,000; all floors hanging on steel trusses and to be without columns. For Hamins Brewing Company, at St. Paul, Minnesota, a 150,000-bushel elevator; to be of stone, wood and iron; have machinery, engine, boilers, pumps, electric light; cost \$75,000. Also stockhouse for same owners; 70 by 90 feet in size. For Du Bois (Pa.) Brewing Company, a new plant, main building to be five stories, 120 by 70 feet in size; to be of brick and steel construction, have machinery, engine, boilers, etc.; cost \$50,000. For Elgin Brewing Company, a new brewhouse, 30 by 25 feet in size, five stories; to be of brick, have copperwork, engine, machinery, etc.; cost \$20,000.

Architects Franklin P. Burnham & Co.: Made drawings for addition to the J. S. Kirk Company's establishment on North Water street; will put in new boiler house; to be of common brick with iron roof, have tunnel running a carrier under the street, etc. For Joseph Sears, a handsome two-story, basement and attic residence, 52 by 46 feet in size; to be erected at Kenilworth; one story will be of brick and the rest of frame; will put in elegant hardwood interior finish, the best of open plumbing, hot-water heating, electric light,

laundry fixtures, etc. Also a two-story residence at same place; to be 31 by 40 feet in size; have brick basement and frame above, hardwood finish, mantels, gas and electric fixtures.

Architects Perkins & Kranse: For E. J. Lehman estate, a four-story and basement apartment house, 135 by 184 feet in size; to be erected at the northwest corner of Clark street and Fullerton avenue; it will be of stone, have hardwood finish, gas and electric fixtures, steam heating.

Architects Hallstrom & Ockerlund: For Klein & Saderstrom, a three-story and basement flat building, 46 by 55 feet in size; to be erected at 325 to 327 Cleveland avenue; it will be of buff Bedford stone front, have hardwood finish, mantels, gas fixtures, steam heating, etc.

Architects Brown & Lindquist: A three-story and basement apartment house, 150 by 115 feet in size; at Kedzie avenue and Fifteenth street; Bedford stone first story and basement, oak interior finish, gas fixtures, ranges and fireplaces, marble entrance, tile floors, electric light, steam heating, all open nickel-plated plumbing, special mantels and sideboards, laundry fixtures, etc.; it will contain twenty-four five to seven room apartments.

Denver, Colo.—Architect C. A. Prestou: For E. H. Wahl, two-story dwelling, brick; 26 by 48 feet in size; cost \$5,000. For E. H. Wahl, two-story dwelling, brick; 38 by 40 feet in size; cost \$7,000. For Regis Chauvenet, two-and-one-half-story dwelling, brick; 44 by 61 feet in size; cost \$12,000. For C. H. Benedict, two-and-one-half-story dwelling, brick; 28 by 48 feet in size; cost \$6,000. For A. M. Andrews, two-story dwelling, brick; 32 by 62 feet in size; cost \$5,000. For A. W. Reitze, one-story terrace, brick; 40 by 125 feet in size; cost \$6,000. For C. B. Whitehead, two-and-one-half-story dwelling, brick; 26 by 43 feet in size; cost \$5,000. For J. W. Hayes, two-story dwelling, brick; 29 by 48 feet in size; cost \$5,000. For Colorado Ice Company, one-story dwelling, brick; 43 by 87 feet in size; cost \$5,000.

Architect J. J. Humphrey: For F. F. Hurd, two-story dwelling, brick; 36 by 37 feet in size; cost \$5,000. For Caroline Levin, two-story dwelling, brick; 33 by 46 feet in size; cost \$5,000. For E. H. Wahl, two-story dwelling, brick; 28 by 48 feet in size; cost \$5,000.

Architects Gore & Walsh: For F. H. Paradise, two-and-one-half-story dwelling, brick; 41 by 58 feet in size; cost \$12,000.

Architect W. H. King: For W. H. Newcomb, two-story dwelling, brick; 36 by 50 feet in size; cost \$5,000. For C. H. Benedict, two-and-one-half-story dwelling, brick; 29 by 48 feet in size; cost \$7,000.

Architect F. E. Edbrooke: For Colorado National Bank, one-story addition to bank, brick; 39 by 40 feet in size; cost \$5,000.

Detroit, Mich.—Architects Nettleton, Kahn & Trowbridge: For Pointe Au Barques Association, three-story frame clubhouse with stone foundation; 177 by 40 feet in size; cost \$6,000.

Architect Edward C. Van Leyen: For J. R. and R. J. McLaughlin, buff brick residence with Ashland brownstone trimmings, heated by a combination system of hot water and hot air; 28 by 50 feet in size; cost \$6,000.

Architects Mason & Rice: For Star Line Storage & Dockage Company, three-story, steel-frame construction storage building, 100 by 100 feet in size; cost \$30,000.

Architect F. J. Grenier: For W. C. D. Lowrie, block of two three-story brick and stone residences, with tile roof; cost \$14,000. Also for J. T. Hornung, two-and-a-half-story brick and stone residence; cost \$9,000. Also for S. Slocum Hance, block of two two-story brick stores and residence flats; cost \$5,000.

Architect Joseph G. Kastler: For St. Anthony's Roman Catholic Society, three-story brick and stone parochial schoolhouse; 79 by 82 feet in size; cost \$21,000.

Architects Baxter & Hill: For James Munro, two-story residence, of field granite, and heated by steam; 26 by 50 feet in size; cost \$8,000.

Architect Joseph E. Mills: For A. C. Peoples, two-story brick apartment building; 80 by 110 feet in size; cost \$14,000. Also for A. Stark, Marlette, Michigan, two-story brick business block; cost \$6,000.

Architect T. Vau Damme: For Dr. R. Leuschner, two-and-a-half-story frame residence, to be built at Mount Clemens, Michigan; cost \$10,000. Also for George A. Skinner, two-and-a-half-story frame residence, at Mount Clemens, Michigan; cost \$7,000.

Architect Richard E. Kaseman: For H. Scherer & Co., six-story office, salesroom and warehouse, of brick; 60 by 100 feet in size; cost \$40,000. Also for H. Scherer & Co., six-story brick manufactory; 60 by 80 feet in size; cost \$25,000.

Duluth, Minn.—Architects Hill & Welbanks: For C. K. Weinman, stores and flats of brownstone; size 50 by 60 feet.

Louisville, Ky.—Architects W. J. Dodd & Arthur Cobb, rooms 901 and 902, Columbia Building, report the following work: Residence for Mr. A. S. Caldwell, Memphis, Tennessee, frame building, veneered with buff brick, slate roof; size 60 by 80 feet; hardwood finish, stone trimmings; cost \$25,000. Residence for Mr. Tribune, brick and stone trimmings; size 44 by 42 feet; slate roof; location St. James Court; cost \$8,000. Store and lodgeroom for Mr. Sapinsky, New Albany, Indiana, buff brick and stone trimmings; size 30 by 160 feet; metal roof; cost \$7,500. Residence for William Thalheimer, Third avenue near Bruett, brick, redstone trimmings; size 38 by 64 feet; slate roof, hardwood finish, etc.; cost \$12,000. Residence for Mr. Eugene Leander, Second street near Hill, brick and terra cotta trimmings; size 33 by 59 feet; slate roof, etc.; cost \$7,000. Equitable Office Building, Bush & Parker, owners, northeast corner Fourth and Jefferson streets; size 83 by 99 feet; six stories in height, buff brick and terra cotta, metal roof, steel construction, fireproofing throughout, electric plant, steam heat, etc.; cost \$125,000. Residence for Shackelford Miller, Fourth avenue near Fountain court, brick and stone trimming, slate roof; size, 36 by 53 feet; hardwood finish; cost \$7,000. Residence for H. C. Turner, location Beechmont, frame, shingle roof; size, 48 by 39 feet; cost \$5,500.

Milwaukee, Wis.—Architects Marshall & Ryder: For Jonathan Magie, store building; cost \$20,000.

Minneapolis, Minn.—Architect Charles S. Sedgewick: Residence for M. W. Savage, two stories; cost \$10,000.

Architect Harry W. Jones: For C. W. Vau Tnyl, two-story residence, of buff pressed brick; cost \$9,000.

Architects Orff & Joralemon: Methodist Episcopal church at St. Peter, Minnesota, 53 by 78 feet in size; of Kasota stone; cost \$10,000. Also eight-room school at Lambertou, Minnesota; brick and stone trimmings, 72 by 75 feet in size; cost \$15,000.

Pittsburg, Pa.—Architects Lougfellow, Alden & Harlowe: For L. C. Phipps, a hotel building of brick and terra cotta, eight stories. For D. F. Heury, hotel of fireproof construction; nine stories; cost \$100,000.

Architect Ludwig Dick: For G. J. Ramlock, dwelling of Pompeian brick; cost \$20,000.

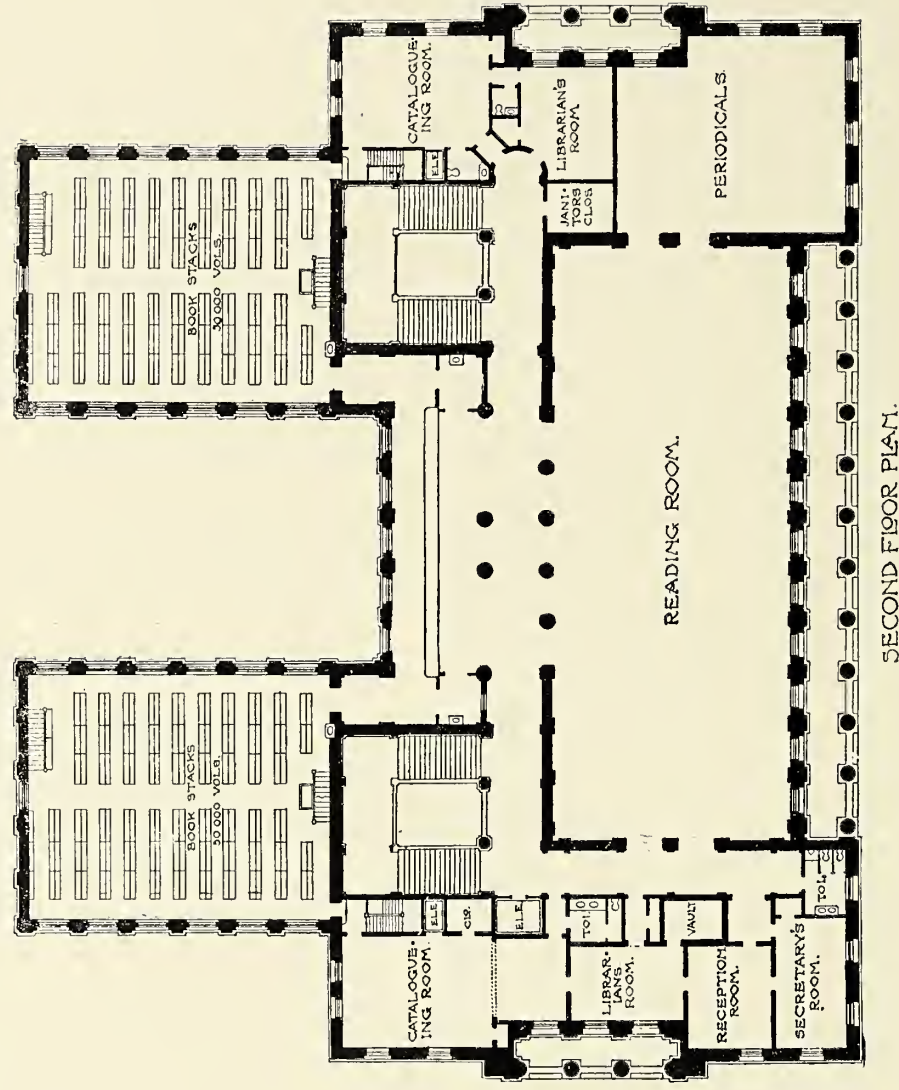
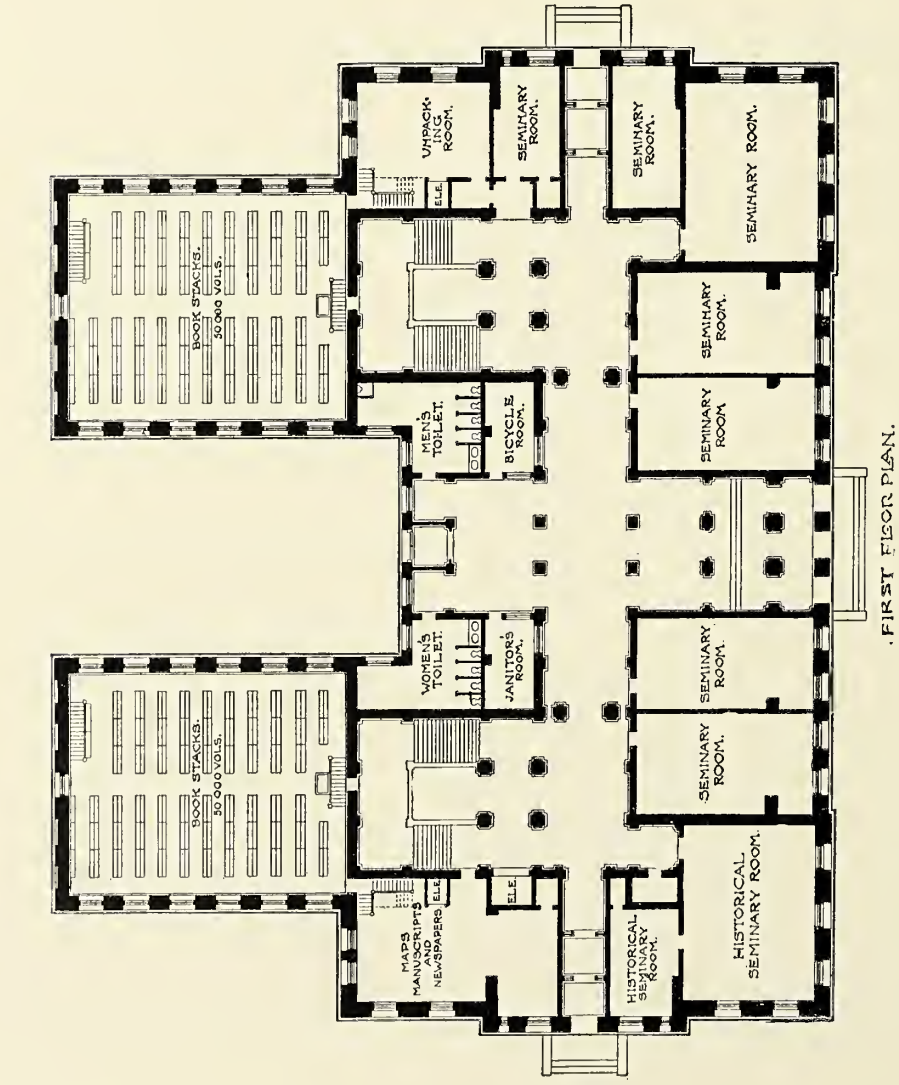
Architect E. Kuox Miller: For Pittsburg & Lake Erie Railroad Company, station; cost \$750,000.

Architects George Orth & Brother: For W. H. Brown, residence, of blue-stone; cost \$75,000.

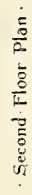
Architect F. C. Saner: For City Savings Bank, bank and office building; of pressed brick, with granite and terra cotta trimmings; cost \$50,000.

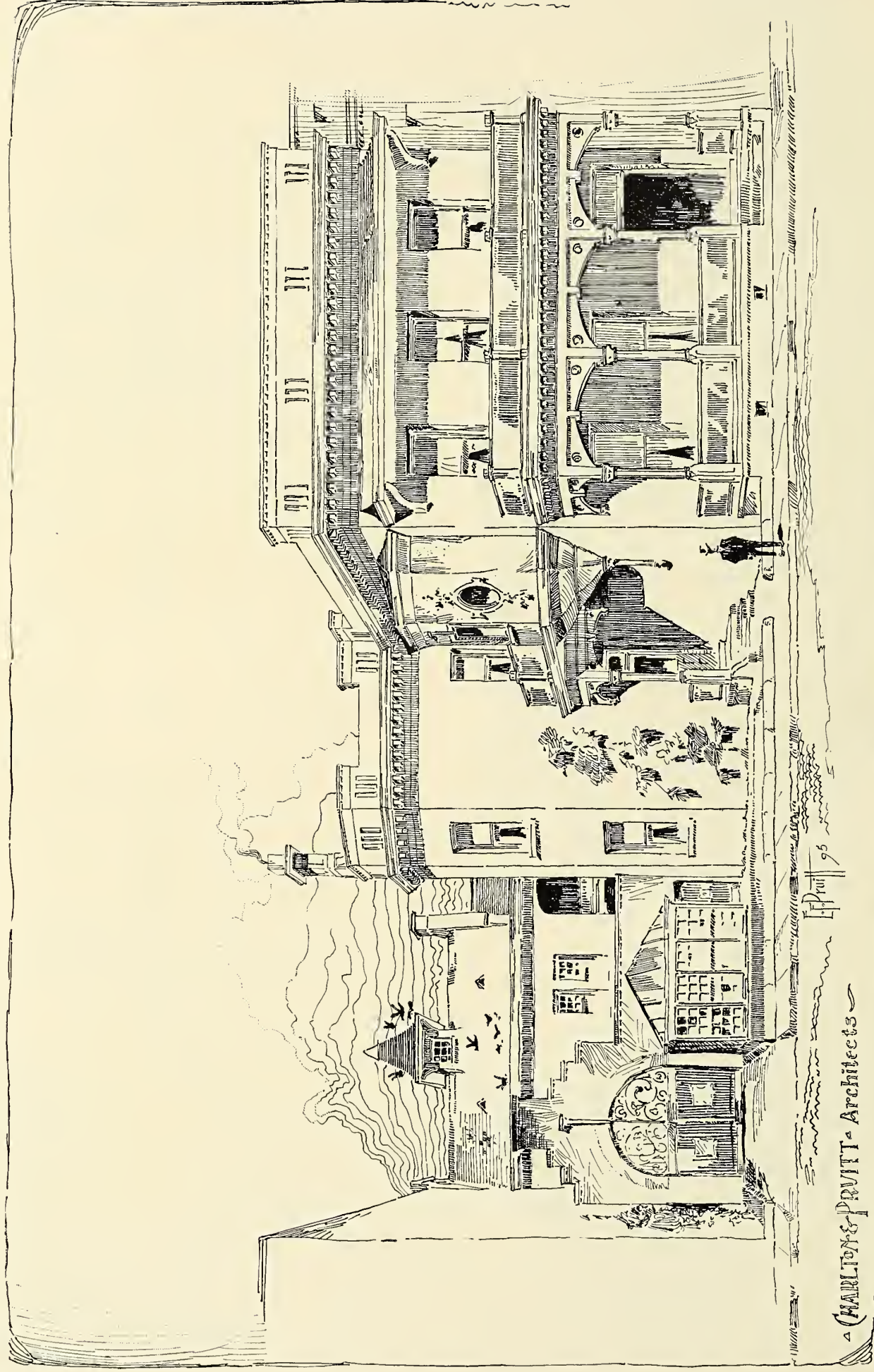
St. Paul, Minn.—Architects Buchner & Jacobsen: Tusane hospital for St. Croix county, Wisconsin; size, 116 by 134 feet; pressed brick and stone trimmings; cost \$30,000.

Youngstown, Ohio.—Architects Owsley & Boucherle: For John Bickil, Butler, Pennsylvania, three-story business block; press brick and stone; cost \$20,000. Eight-room schoolhouse, Meadville, Pennsylvania; cost \$20,000. For J. G. & W. Campbell, Butler, Pennsylvania, three-story business block, pressed brick, stone and terra cotta; cost \$20,000. Addition to Youngstown waterworks; cost \$10,000. Presbyterian church, Poland, Ohio; cost \$10,000. Five department buildings, Warren, Ohio; cost \$15,000. Addition to infirmary, Warren, Ohio; cost \$7,000. Office building, for Lloyd Booth & Co., Youngstown, Ohio; cost \$3,000. Residence for D. Reed, Esq., Youngstown, Ohio; cost \$8,000. For G. B. Sennett, foundry and machine shops; cost \$18,000. German Lutheran church; stone; Butler, Pennsylvania; cost \$25,000. Remodeling McKean Street school, Butler, Pennsylvania; cost \$15,000. Remodeling hotel for W. Packard, Esq., Warren, Ohio; cost \$20,000.



R. Brown Jr. Architect Boston

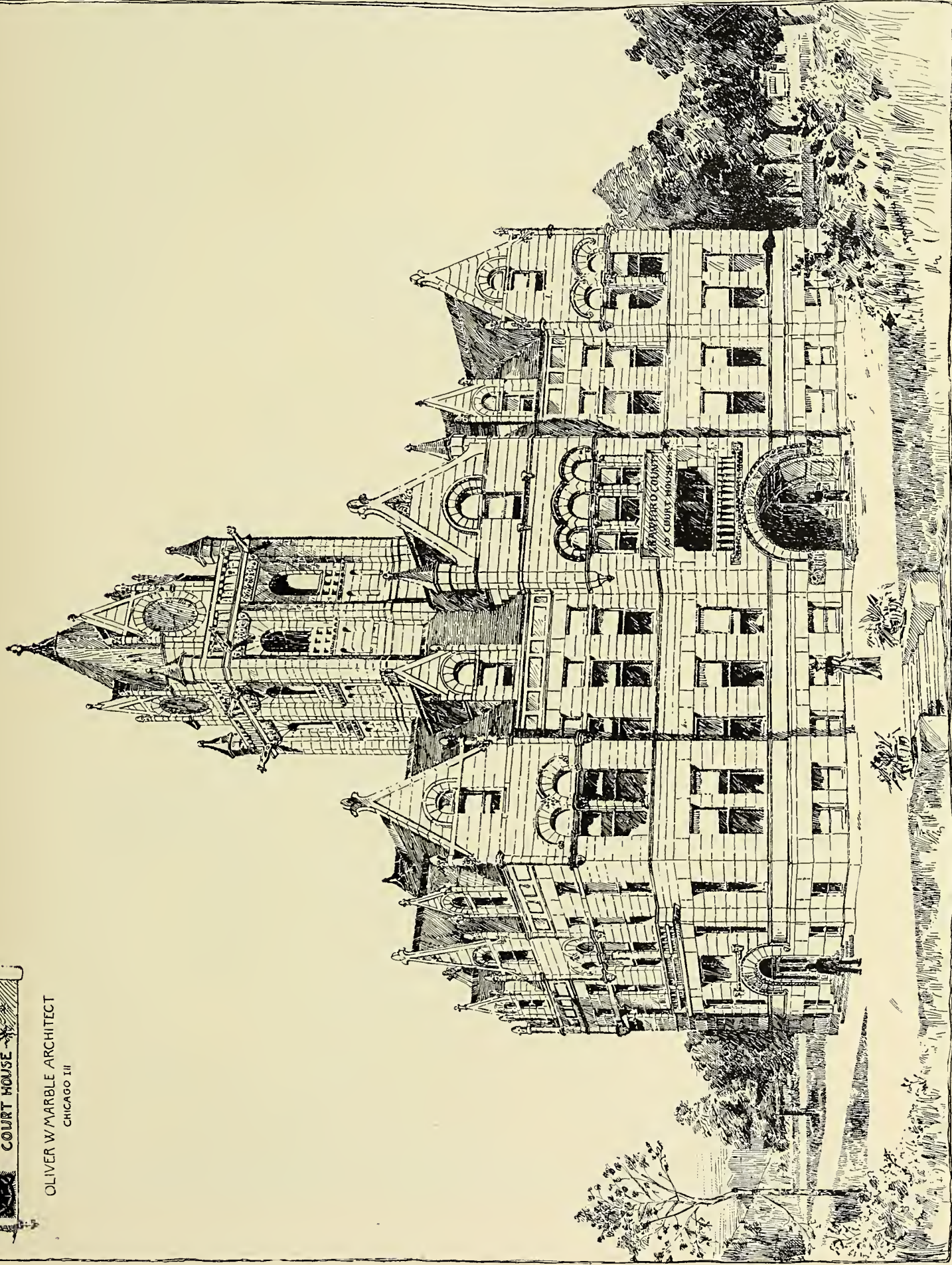


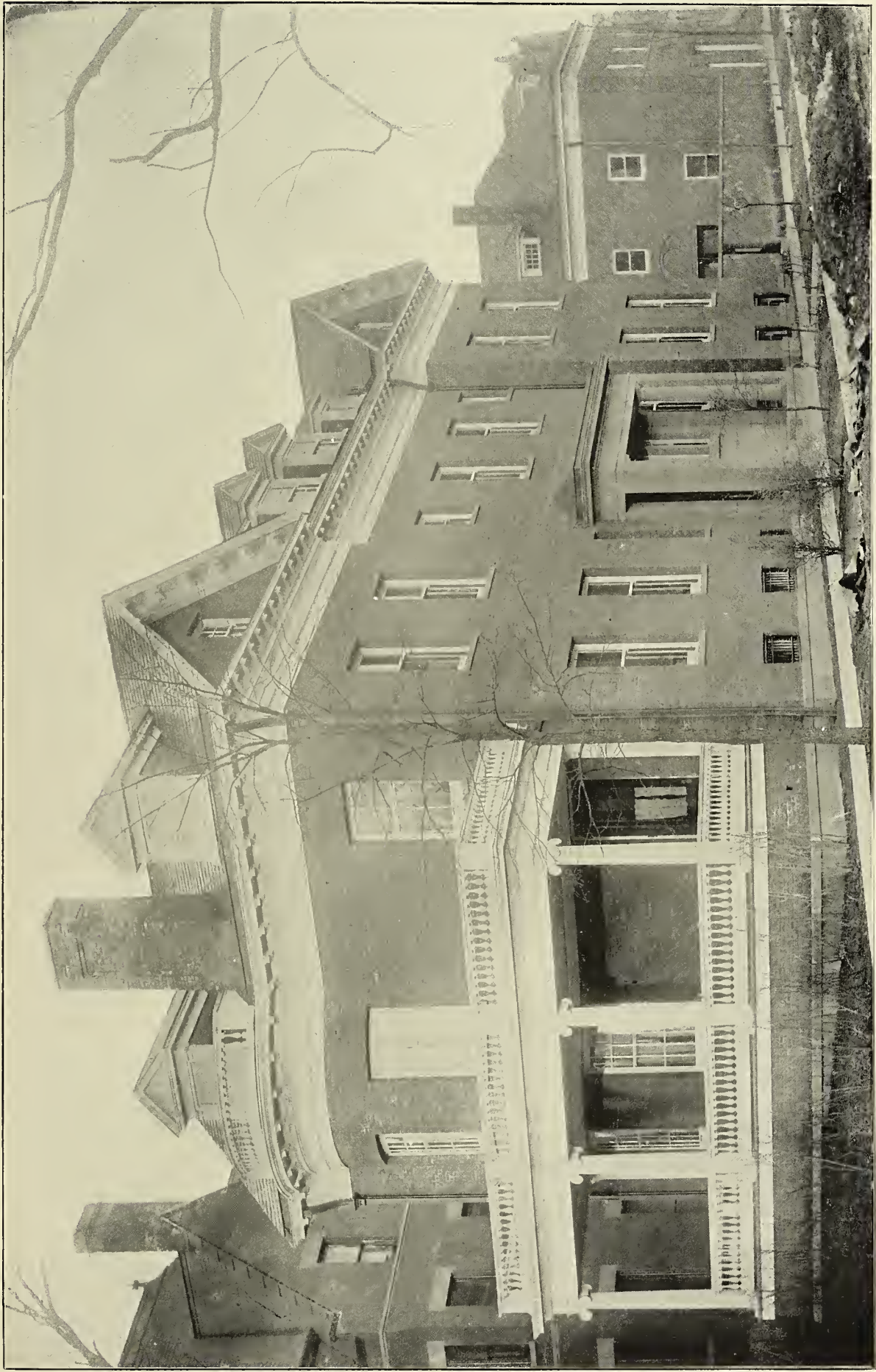


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CHARTON & PRUITT, ARCHITECTS.

CRAWFORD COUNTY IND.
COURT HOUSE

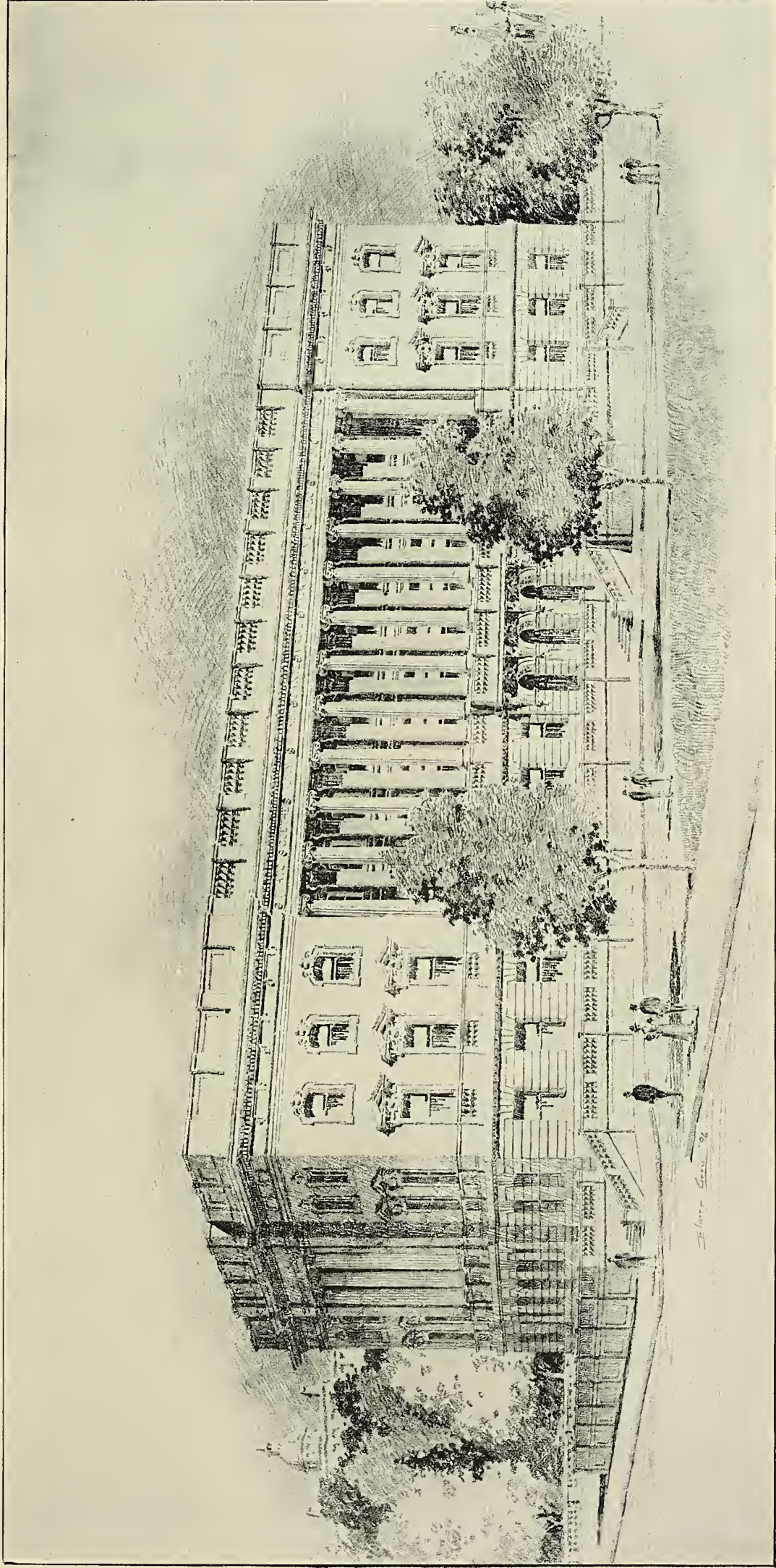
OLIVER W. MARBLE ARCHITECT
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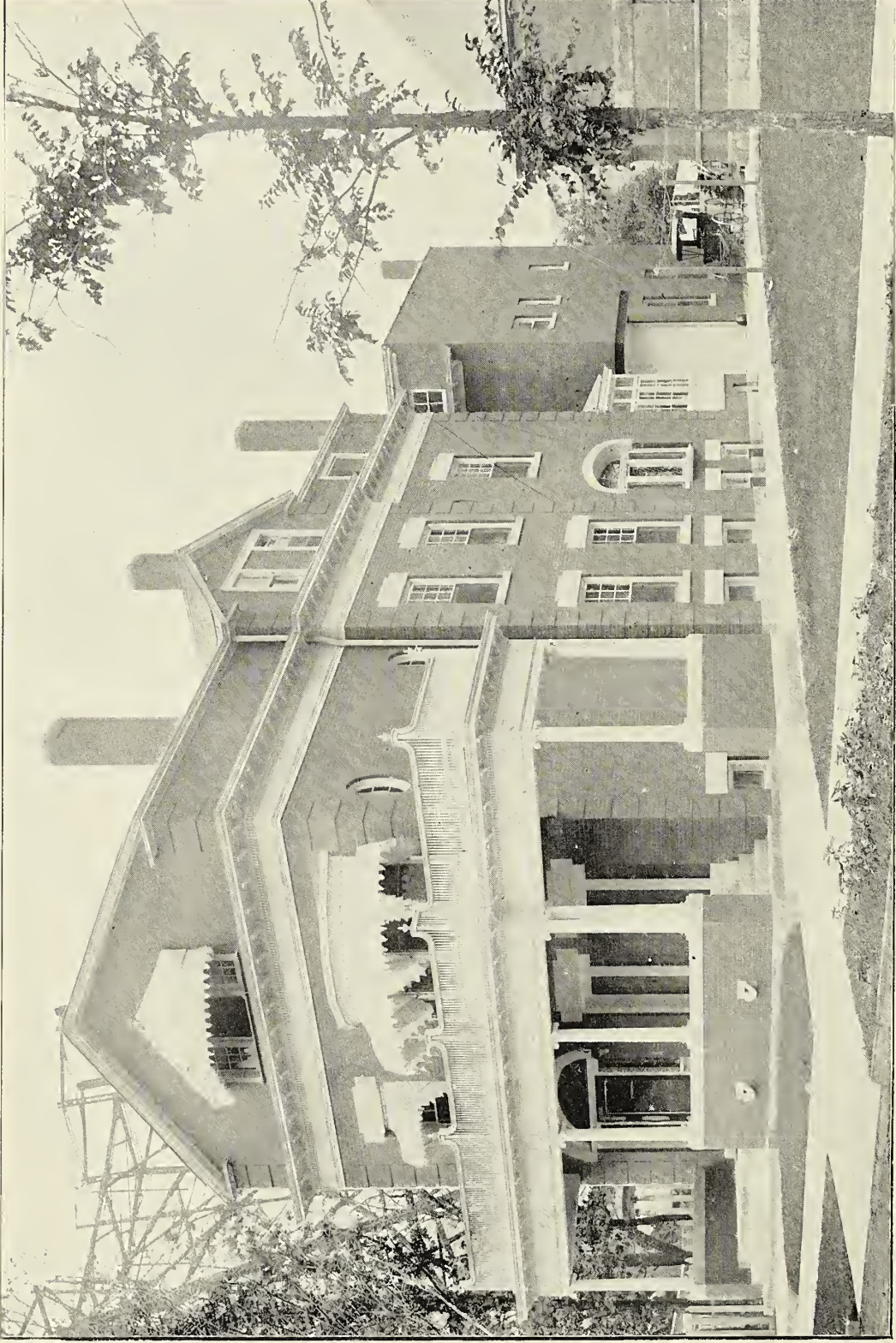
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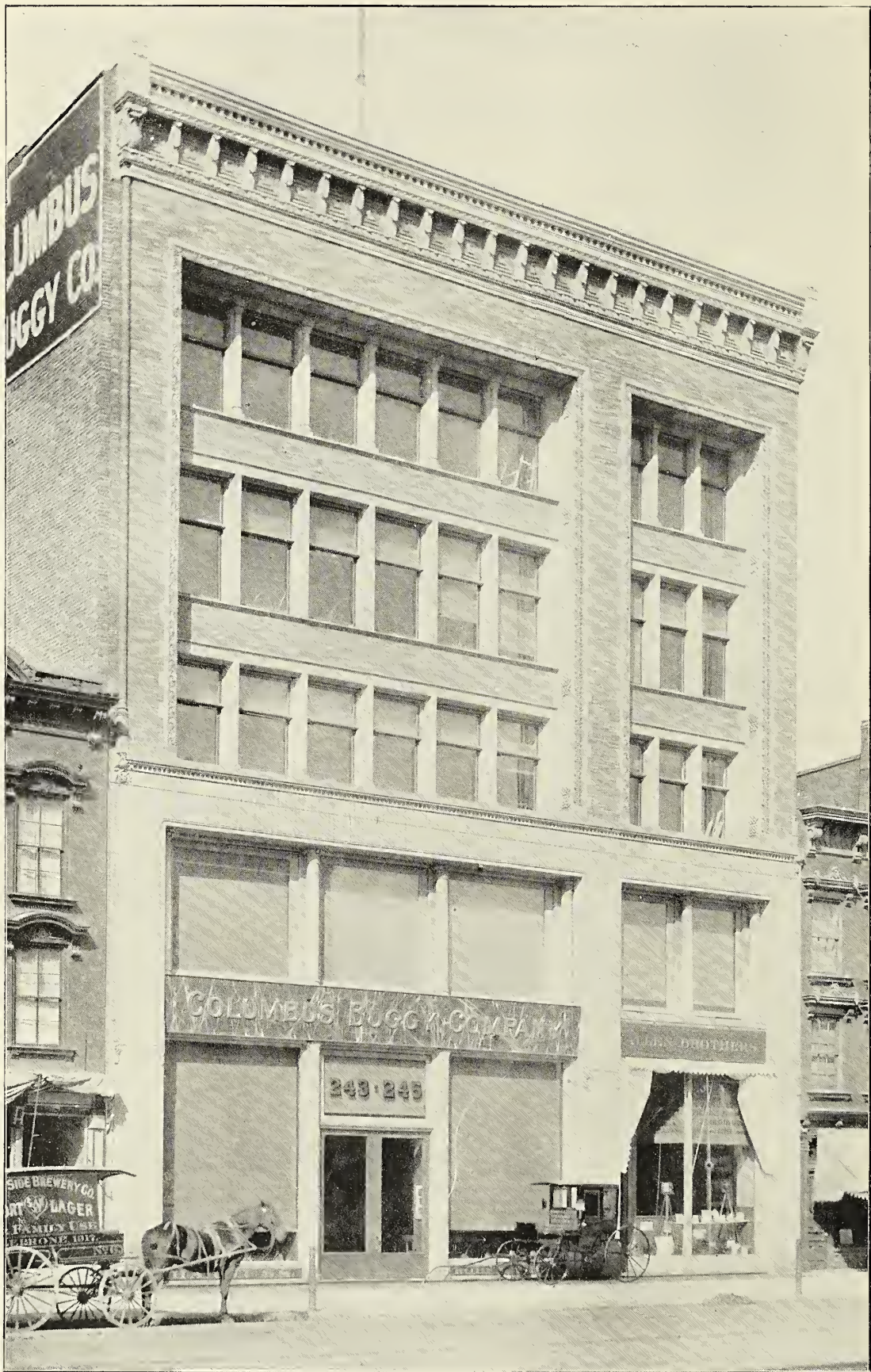
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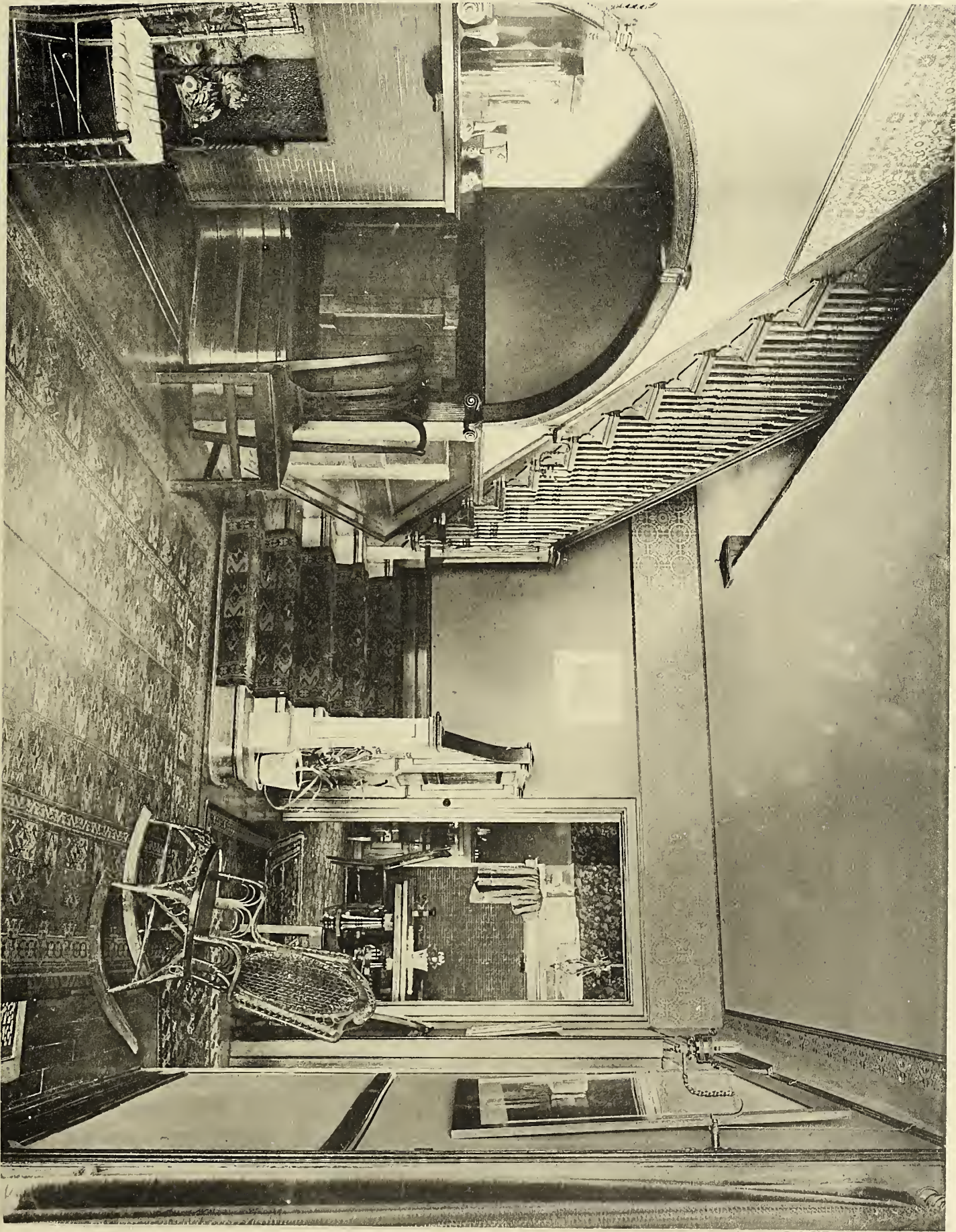


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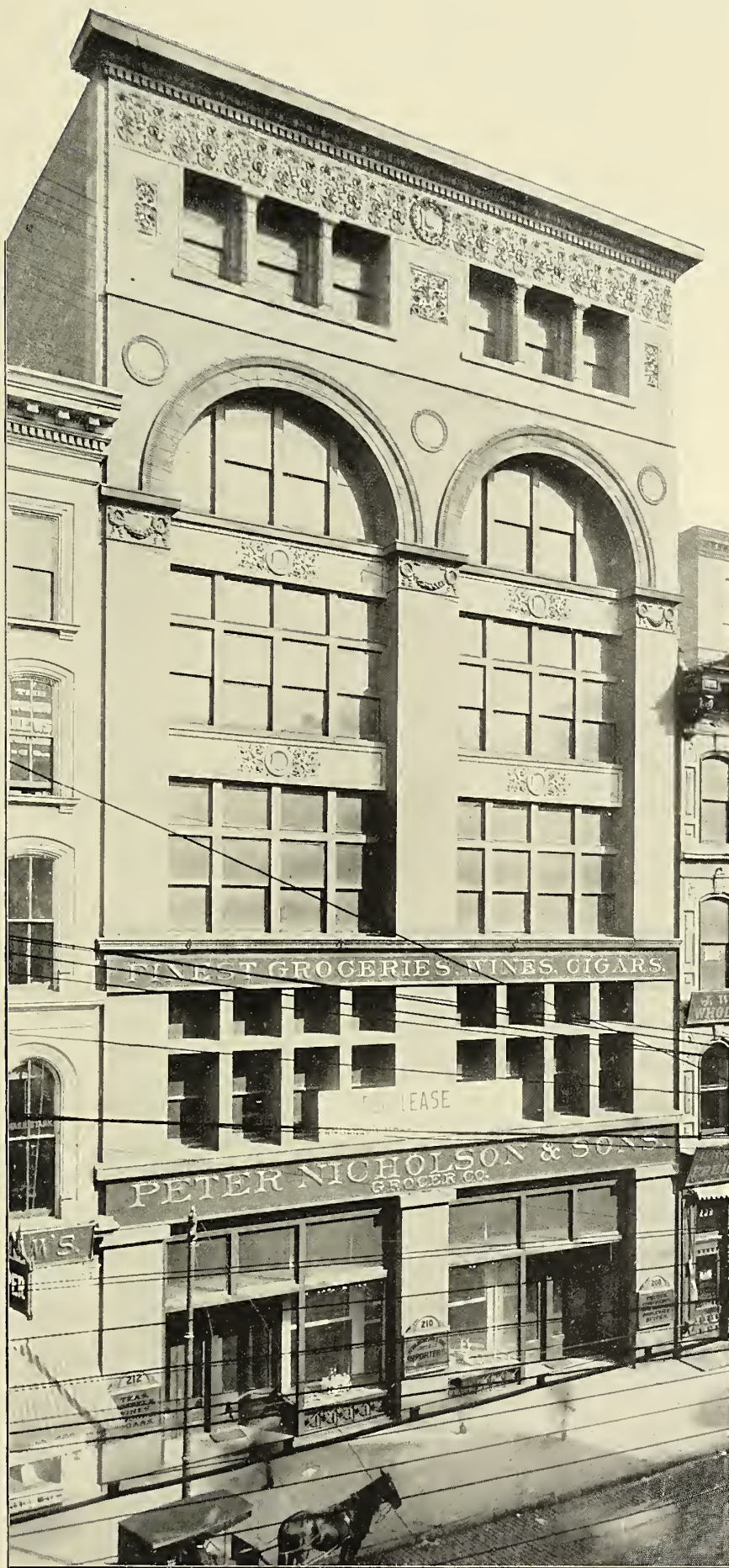


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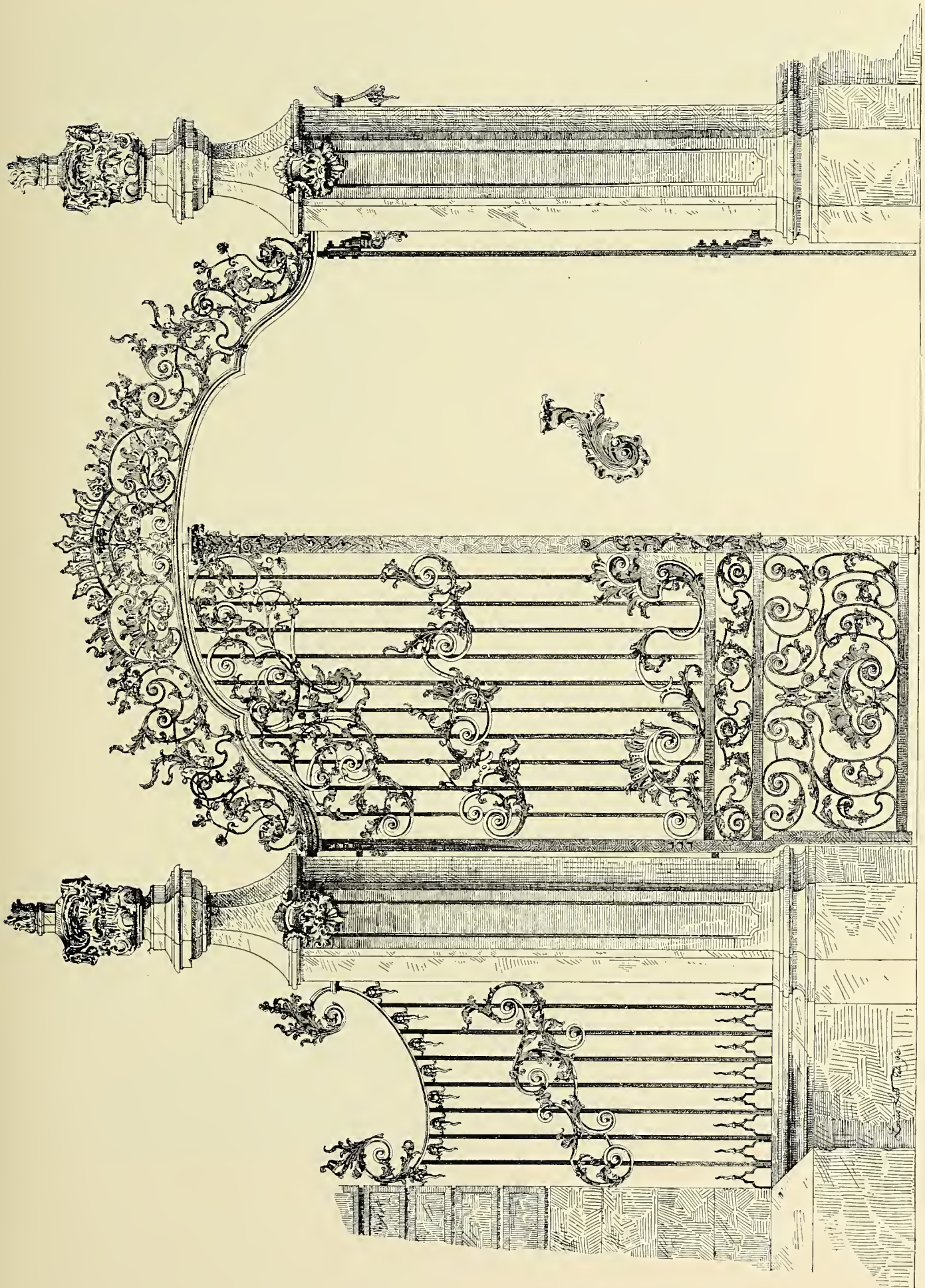
VIEW IN RESIDENCE OF MRS. BABCOCK, KENILWORTH, ILLINOIS.

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THE INLAND ARCHITECT AND NEWS RECORD

Vol. XXVII.

MAY, 1896.

No. 4



A Monthly Journal Devoted to
ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
409 410 MANHATTAN BUILDING, CHICAGO, ILL.

L. MULLER, Jr., Manager. ROBERT CRAIK McLEAN, Editor.

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), \$1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

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Committee on Congressional Bill for the Erection of United States Government Buildings.—George B. Post, chairman; Bruce Price, New York; John M. Carrère, New York; James G. Hill, Washington, D. C.; Alfred Stone, Providence, R. I. Alternates.—E. H. Kendall, New York; H. J. Hardenbergh, New York; Robert Stead, Washington, D. C.; R. S. Peabody, Boston.	

Chicago Academy of Sciences in Danger.

The length to which political officeholders will go to secure an increase of "patronage" is illustrated in the recent action of the Commissioners of Lincoln Park, at Chicago. A prominent citizen, Matthew Laflin, bequeathed \$75,000 to the Academy of Sciences, of which he was a member, for the erection of a building for scientific purposes. The park commissioners, wishing to secure an attractive building in the park, agreed to give \$25,000 toward the building fund if the trustees would erect it in the park, and further agreed to pay \$5,000 a year toward the maintenance of the building in consideration of rental for offices within its walls. Now that the Academy of Sciences is occupying suitable quarters for the first time since the great fire, and its trustees after twenty-five years of effort have placed it upon a footing commensurate with scientific advancement, these political philistines demand that as they pay the bills they should appoint the employees. Their excuse is a charge of extravagance, etc., but it is only an excuse. If it were not their contribution is simply in lieu of office rent, and their investment in the structure ended with its location in the park. More specimens and articles of different kinds have been donated to the academy the past year than ever before, and it would be a pleasing sight to see a stonecutter with a pull in the 'steenth ward appointed professor of geology or a butcher from the stock yards given charge of zoölogy and taxidermy. The position taken by the park commissioners can hardly be tenable, but the controversy will be remembered the next time the commissioners of a public park seek to embellish their grounds by the erection of a scientific or art building. It would be better for the Academy of Sciences to desert their beautiful building and return to their old quarters which they could control than to allow the Lincoln Park Commissioners the appointment of its employees. The next demand of these dependents upon political favor would be to capture the Metropolitan Museum of Art in Central Park and the Field Columbian Museum, and destroy the art centers of the East and West.

Need of Better Methods in Filing Public Documents.

One who has had occasion to use public documents is probably aware of the difficulty of obtaining those that are desired, while perhaps those which one has no use for are thrust upon him. To remedy this, some year or two ago there was a superintendent of documents appointed at the Government building at Washington, and through this officer's efforts matters have been considerably simplified. There has been a monthly catalogue of the monthly government publications published, and it has become easier to know what are published, and also to obtain those that may be desired. We imagine that the establishment of this office was somewhat tentative; at any rate the good that has been effected has stimulated a desire for further improvement, but more authority is necessary to carry it out. A bill has been introduced in Congress "To Reduce the Cost, Increase the Value and Simplify the Methods of Publication of the Public Documents," and in the interest of architects, as well as the public at large, we sincerely hope that the bill may pass.

ARCHITECTS AND TRADES UNIONS.

BY DANKMAR ADLER, ARCHITECT.

TO the best of my knowledge, the various architectural societies now existing in the United States have carefully abstained from embodying in their organizations and policies everything which tends to abridge the rights and privileges of unaffiliated practitioners; nor have they adopted disciplinary measures toward those of their members who rate the value of their services at less than the standard established by the American Institute of Architects.

It is true that they have made spasmodic efforts to bring about legislative enactments which limit the right to use the title "architect" to those who have demonstrated their ability to discharge in proper manner the duties of an architect to the satisfaction of commissions of expert examiners to be appointed by the various state authorities, but such action must be construed as taken in the interests of the public welfare rather than as tending to the establishment of an architectural trades union.

If we are warranted in basing a conclusion upon their public collective acts, it is evident that the general drift of opinion among architects favors the maintenance of the right of the individual to conduct his business and sell his services as he deems best, and opposes the restrictive tendencies of trades unionism.

Still, no matter what opinions architects may hold upon this subject, their enforcement is practicable only in the conduct of their own relations to each other. In their dealings with the outside world, it will soon be found that the trades union exists and so asserts itself that it cannot be ignored. Again, the architect must base his action in all the conditions and emergencies which confront him, not alone upon his own conviction of right and wrong, but also upon the interests and wishes of his client. In fact, the subservience of the architect to the latter generally becomes so dominating as to stop short only at the commission of crime or of professional suicide. Hence, architects cannot agree upon any fixed policy to be pursued by them in their relations to trusts and trades unions. But while there will be a tendency not alone toward individualism in the policy of each architect, and while individual architects may find it necessary to adopt varying policies in the conduct of the affairs of different clients, yet we cannot escape noting an approximation to uniformity of governing conditions, and, therefore, a tendency toward uniformity of practice.

Architects cannot exist without clients and no one becomes the client of an architect except in pursuance of a desire for the erection of a certain building or buildings within a fixed time. The first and most important function of the architect is therefore his agency in bringing about the erection of the proposed building within the time specified by his client.

This condition fixes the attitude toward trades unions of architects in most of the larger American cities. For in these trades unionism is so firmly established and so strongly organized in the building trades that a building cannot be completed within any ordinarily reasonable time limit except by the employment of union labor and consequently under substantial compliance with such conditions as the trades unions see fit to impose. No effort has been made in recent years to erect any important city building entirely with non-union labor, and the instances where contractors or owners have essayed to do part of their work with free labor have been characterized by all the disorder, delay and expense, in the art of creating which the typical trades union leader is past master.

Granting the correctness of the assumption that the first duty of the architect is to build his client's buildings and to complete them within such limitations of time as are dictated by the conditions under which the client has undertaken their erection, it follows that the architect must advise his client to undertake and carry out his work under the conditions and limitations imposed by the ruling trades unions.

This is the duty of architects to each individual client, and the architect who tries to evade it will find himself so seriously handicapped as to be unable to carry out the commissions intrusted to him, and consequently he will ere long be entirely bereft of commissions.

That such a state of affairs exists is humiliating to the individual architect and to the profession as a whole, but now and here, as at all times and in all places, Might makes Right, and architects and their clients are not the only ones who have had to

submit to that Right which is born of the Might of organized and persistent effort.

The architect, as well as everyone else who uses the handicraftsman as the tool with which to achieve important results, has reason for desiring not only constantly increasing proficiency in the use of this tool, but also the same increase in the efficiency of the tool itself. But the tendencies of trades unionism among handicraftsmen is not toward elevation of standard in quality or quantity of production, but toward the establishment of an average attainable by the great majority. As a majority of this majority cannot be composed of the most capable and most enterprising workmen, the standard established under trades unions conditions is one which is below the limits of attainment of the best of the men subject to its rules. Hence these will gradually be forced into pursuits where their ambition and enterprise are unhampered, or their own individual standard will be lowered by habitual conformity to the standard of the unions, and thus the standard of average production must be a constantly falling one and the efficiency of the handicraftsmen controlled by the unions will be in a condition of continual deterioration. It is also well to note that many of the most brainy craftsmen find it more expedient to become leaders of their fellows, not in campaigns for the increase of their usefulness and efficiency and the consequent rise in standard of production and emolument, but in efforts for securing greater pay for a product of constantly lowering quantity and quality. Everything in trades unionism trends away from the desire to produce great and good results for their employers, the owners of buildings, and toward the propagation of the creed, that he who has accomplished the least toward the earning of his daily wage has been the best soldier in the day's fight of labor against capital.

But there is much that is great and noble even in the trades unionism of our day. The spirit of self-sacrifice and self-effacement in the service of what its votaries believe to be a good cause, the discipline and singleness of purpose found within the organization, challenge our admiration and present much that might be copied and emulated by those who believe in the rights of free labor and individualism.

Architects are so much interested in raising the standard of their productions that their interest in the increase of skill and efficiency of all their coworkers and subordinates is truly vital. Finding that at the present day their works must be executed, not by individual and free workmen, but by guilds of firmly united and strictly governed craftsmen, their efforts in dealing with these guilds should be directed toward inducing their leaders to recognize the principle: that to live, a body must increase in its value to its contemporary fellow beings; that the effort to earn higher wages in shorter working hours cannot be permanently successful without encouragement to the free and untrammelled development of the brightest, most industrious and most ambitious handicraftsman, and that the world will not long favor a rule which substitutes for loyalty to one's work and to one's employer, and for the desire to render the best possible recompense for one's wage, the determination to limit as closely as possible the day's work done for a day's wage.

THE TALL OFFICE BUILDING ARTISTICALLY CONSIDERED.*

BY LOUIS H. SULLIVAN, ARCHITECT.

I.

THE architects of this land and generation are now brought face to face with something new under the sun, namely, that evolution and integration of social conditions, that special grouping of them, that results in a demand for the erection of tall office buildings.

It is not my purpose to discuss the social conditions; I accept them as the fact, and say at once that the design of the tall office building must be recognized and confronted at the outset as a problem to be solved—a vital problem, pressing for a true solution.

Let us state the conditions in the plainest manner. Briefly, they are these: Offices are necessary for the transaction of business; the invention and perfection of the high-speed elevator make vertical travel, that was once tedious and painful, now easy and comfortable; development of steel manufactures has shown the way to safe, rigid, economical constructions rising to a great height; continued growth of population in the great cities, consequent congestion of centers and rise in value of ground, stimulate an increase in number of stories; these, successfully piled one

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upon another, react on ground values; and so on, by action and reaction, interaction and inter-reaction. Thus has come about that form of lofty construction called the "modern office building." It has come in answer to a call, for in it a new grouping of social conditions has found a habitation and a name.

Up to this point all in evidence is materialistic, an exhibition of force, of resolution, of brains—in the keen sharp sense of the word. It is the joint product of the speculator, the engineer, the builder.

Problem: How shall we impart to this sterile pile, this crude, harsh, brutal agglomeration, this stark, staring exclamation of eternal strife, the graciousness of those higher forms of sensibility and culture that rest on the lower and fiercer passions? How shall we proclaim from the dizzy height of this strange, weird, modern housetop the peaceful evangel of sentiment, of beauty, the cult of a higher life?

This is the problem; and we must seek the solution of it in a process analogous to its own evolution—indeed, a continuation of it, namely, by proceeding step by step from general to special aspects, from coarser to finer considerations.

It is my belief that it is of the very essence of every problem that it contains and suggests its own solution. This I believe to be natural law. Let us examine, then, carefully, the elements, let us search out this contained suggestion, this essence of the problem.

The practical conditions are, broadly speaking, these:

Wanted—First, A story below ground, containing boilers, engines, of various sorts, etc.—in short, the plant for power, heating, lighting etc. Second, A ground floor, so-called, devoted to stores, banks, or other establishments requiring large area, ample spacing, ample light, and great freedom of access. Third, A second story readily accessible by stairways—this space usually in large subdivisions, with corresponding liberality in structural spacing and in expanse of glass and breadth of external openings. Fourth, Above this an indefinite number of stories of offices piled tier upon tier, one tier just like another tier, one office just like all the other offices—an office being similar to a cell in a honeycomb, merely a compartment, nothing more. Fifth and last, At the top of this pile is placed a space or a story that, as related to the life and usefulness of the structure, is purely physiological in its nature, namely, the attic. In this the circulatory system completes itself and makes its grand turn, ascending and descending. The space is filled with tanks, pipes, valves, sheaves, and mechanical et cetera that supplement and complement the force-originating plant hidden below ground in the cellar. Finally, or at the beginning rather, there must be on the ground floor a main aperture or entrance common to all the occupants or patrons of the building.

This tabulation is, in the main, characteristic of every tall office building in the country. As to the necessary arrangements for light courts, these are not germane to the problem, and, as will become soon evident, I trust, need not be considered here. These things, and such others as the arrangement of elevators, for example, have to do strictly with the economics of the building, and I assume them to have been fully considered and disposed of to the satisfaction of purely utilitarian and pecuniary demands. Only in rare instances does the plan or floor arrangement of the tall office building take on an æsthetic value, and this usually when the lighting court is external or becomes an internal feature of great importance.

As I am here seeking not for an individual or special solution, but for a true normal type, the attention must be confined to those conditions that, in the main, are constant in all tall office buildings, and every mere incidental and accidental variation eliminated from the consideration as harmful to the clearness of the main inquiry.

The practical horizontal and vertical division or office unit is naturally based on a room of comfortable area and height, and the size of this standard office room as naturally predetermines the standard structural unit, and, approximately, the size of window openings. In turn, these purely arbitrary units of structure form in an equally natural way the true basis of the artistic development of the exterior. Of course the structural spacings and openings in the first or mercantile story are required to be the largest of all; those in the second or quasi-mercantile story are of a somewhat similar nature. The spacings and openings in the attic are of no importance whatsoever (the windows have no actual value), for light may be taken from the top, and no recognition of a cellular division is necessary in the structural spacing.

Hence it follows inevitably, and in the simplest possible way, that if we follow our natural instincts without thought of books, rules, precedents, or any such educational impedimenta to a spontaneous and "sensible" result, we will in the following manner design the exterior of our tall office building, to wit:

Beginning with the first story, we give this a main entrance that attracts the eye to its location, and the remainder of the story we treat in a more or less liberal, expansive, sumptuous way—a way based exactly on the practical necessities, but expressed with a sentiment of largeness and freedom. The second story we treat in a similar way, but usually with milder pretensions. Above this, throughout the indefinite number of typical office-tiers, we take our cue from the individual cell, which requires a window with its separating pier, its sill and lintel, and we, without more ado, make them *look* all alike because they *are* all alike. This brings us to the attic, which, having no division into office-cells, and no special requirement for lighting, gives us the power to show by means of its broad expanse of wall, and its dominating

weight and character, that which is the fact—namely, that the series of office-tiers has come definitely to an end.

This may perhaps seem a bald result and a heartless, pessimistic way of stating it, but even so we certainly have advanced a most characteristic stage beyond the imagined sinister building of the speculator-engineer-builder combination. For the hand of the architect is now definitely felt in the decisive position at once taken, and the suggestion of a thoroughly sound, logical, coherent expression of the conditions is becoming apparent.

When I say the hand of the architect, I do not mean necessarily the accomplished and trained architect. I mean only a man with a strong natural liking for buildings, and a disposition to shape them in what seems to his unaffected nature a direct and simple way. He will probably tread an innocent path from his problem to its solution, and therein he will show an enviable gift of logic. If he have some gift for form in detail, some feeling for form purely and simply as form, some love for that, his result, in addition to its simple straightforward naturalness and completeness in general statement, will have something of the charm of sentiment.

However, thus far the results are only partial and tentative at best; relatively true, they are but superficial. We are doubtless right in our instinct, but we must seek a fuller justification, a finer sanction, for it.

II.

I assume now that in the study of our problem we have passed through the various stages of inquiry, as follows: First, the social basis of the demand for tall office buildings; second, its literal material satisfaction; third, elevation of the question from considerations of literal planning, construction, and equipment, to the plane of elementary architecture as a direct outgrowth of sound, sensible building; fourth, the question again elevated from an elementary architecture to the beginnings of true architectural expression, through the addition of a certain quality and quantity of sentiment.

But our building may have all these in a considerable degree and yet be far from that adequate solution of the problem I am attempting to define. We must now heed the imperative voice of emotion.

It demands of us, What is the chief characteristic of the tall office building? And at once we answer, it is lofty. This loftiness is to the artist-nature its thrilling aspect. It is the very open organ-tone in its appeal. It must be in turn the dominant chord in his expression of it, the true excitant of his imagination. It must be tall, every inch of it tall. The force and power of altitude must be in it, the glory and pride of exaltation must be in it. It must be every inch a proud and soaring thing, rising in sheer exultation that from bottom to top it is a unit without a single dissenting line—that it is the new, the unexpected, the eloquent peroration of most bald, most sinister, most forbidding conditions.

The man who designs in this spirit and with this sense of responsibility to the generation he lives in must be no coward, no denier, no bookworm, no dilettante. He must live of his life and for his life in the fullest, most consummate sense. He must realize at once and with the grasp of inspiration that the problem of the tall office building is one of the most stupendous, one of the most magnificent opportunities that the Lord of Nature in his beneficence has ever offered to the proud spirit of man.

That this has not been perceived—indeed, has been flatly denied—is an exhibition of human perversity that must give us pause.

III.

One more consideration. Let us now lift this question into the region of calm, philosophic observation. Let us seek a comprehensive, a final solution: let the problem indeed *dissolve*.

Certain critics, and very thoughtful ones, have advanced the theory that the true prototype of the tall office building is the classical column, consisting of base, shaft, and capital—the moulded base of the column typical of the lower stories of our building, the plain or fluted shaft suggesting the monotonous uninterrupted series of office-tiers, and the capital the completing power and luxuriance of the attic.

Other theorists, assuming a mystical symbolism as a guide, quote the many trinities in nature and in art, and the beauty and conclusiveness of such trinity in unity. They aver the beauty of prime numbers, the mysticism of the number three, the beauty of all things that are in three parts—to wit, the day, subdividing into morning, noon, and night; the limbs, the thorax, and the head, constituting the body. So, they say, should the building be in three parts vertically, substantially as before, but for different motives.

Others, of purely intellectual temperament, hold that such a design should be in the nature of a logical statement; it should have a beginning, a middle, and an ending, each clearly defined—therefore again a building, as above, in three parts vertically.

Others, seeking their examples and justification in the vegetable kingdom, urge that such a design shall above all things be organic. They quote the suitable flower with its bunch of leaves at the earth, its long graceful stem, carrying the gorgeous single flower. They point to the pine tree—its massy roots, its lithe, uninterrupted trunk, its tuft of green high in the air. Thus, they say, should be the design of the tall office building: again in three parts vertically.

Others, still, more susceptible to the power of a unit than to the grace of a trinity, say that such a design should be struck out

at a blow, as though by a blacksmith or by mighty Jove, or should be thought-born, as was Minerva, full-grown. They accept the notion of a triple division as permissible and welcome, but non-essential. With them it is a subdivision of their unit: the unit does not come from the alliance of the three; they accept it without murmur, provided the subdivision does not disturb the sense of singleness and repose.

All of these critics and theorists agree, however, positively, unequivocally, in this, that the tall office building should not, must not, be made a field for the display of architectural knowledge in the encyclopædic sense; that too much learning in this instance is fully as dangerous, as obnoxious, as too little learning; that miscellany is abhorrent to their sense; that the sixteen-story building must not consist of sixteen separate, distinct and unrelated buildings piled one upon the other until the top of the pile is reached.

To this latter folly I would not refer were it not the fact that nine out of every ten tall office buildings are designed in precisely this way in effect, not by the ignorant, but by the educated. It would seem, indeed, as though the "trained" architect, when facing this problem, were beset at every story, or, at most, every third or fourth story, by the hysterical dread lest he be in "bad form"; lest he be not bedecking his building with sufficiency of quotation from this, that or the other "correct" building in some other land and some other time; lest he be not copious enough in his display of wares; lest he betray, in short, a lack of resource. To loosen up the touch of this cramped and fidgety hand, to allow the nerves to calm, the brain to cool, to reflect equably, to reason naturally, seems beyond him; he lives, as it were, in a waking nightmare filled with the *disjecta membra* of architecture. The spectacle is not inspiring.

As to the former and serious views held by discerning and thoughtful critics, I shall, with however much of regret, dissent from them for the purposes of this demonstration, for I regard them as secondary only, nonessential, and as touching not at all upon the vital spot, upon the quick of the entire matter, upon the true, the immovable philosophy of the architectural art.

This view let me now state, for it brings to the solution of the problem a final, comprehensive formula:

All things in nature have a shape, that is to say, a form, an outward semblance, that tells us what they are, that distinguishes them from ourselves and from each other.

Unfailingly in nature these shapes express the inner life, the native quality, of the animal, tree, bird, fish, that they present to us; they are so characteristic, so recognizable, that we say, simply, it is "natural" it should be so. Yet the moment we peer beneath this surface of things, the moment we look through the tranquil reflection of ourselves and the clouds above us, down into the clear, fluent, unfathomable depths of nature, how startling is the silence of it, how amazing the flow of life, how absorbing the mystery! Unceasingly the essence of things is taking shape in the matter of things, and this unspeakable process we call birth and growth. Awhile the spirit and the matter fade away together, and it is this that we call decadence, death. These two happenings seem joined and interdependent, blended into one like a bubble and its iridescence, and they seem borne along upon a slowly moving air. This air is wonderful past all understanding.

Yet to the steadfast eye of one standing upon the shore of things, looking chiefly and most lovingly upon that side on which the sun shines and that we feel joyously to be life, the heart is ever gladdened by the beauty, the exquisite spontaneity, with which life seeks and takes on its forms in an accord perfectly responsive to its needs. It seems ever as though the life and the form were absolutely one and inseparable, so adequate is the sense of fulfillment.

Whether it be the sweeping eagle in his flight, or the open apple blossom, the toiling work-horse, the blithe swan, the branching oak, the winding stream at its base, the drifting clouds, over all the coursing sun, *form ever follows function*, and this is the law. Where function does not change, form does not change. The granite rocks, the ever-brooding hills, remain for ages; the lightning lives, comes into shape, and dies, in a twinkling.

It is the pervading law of all things organic and inorganic, of all things physical and metaphysical, of all things human and all things superhuman, of all true manifestations of the head, of the heart, of the soul, that the life is recognizable in its expression, that form ever follows function. *This is the law.*

Shall we, then, daily violate this law in our art? Are we so decadent, so imbecile, so utterly weak of eyesight, that we cannot perceive this truth, so simple, so very simple? Is it indeed a truth so transparent that we see through it, but do not see it? Is it really, then, a very marvelous thing, or is it rather so commonplace, so everyday, so near a thing to us, that we cannot perceive that the shape, form, outward expression, design, or whatever we may choose, of the tall office building should in the very nature of things follow the functions of the building, and that where the function does not change, the form is not to change?

Does not this readily, clearly and conclusively show that the lower one or two stories will take on a special character suited to the special needs, that the tiers of typical offices, having the same unchanging function, shall continue in the same unchanging form, and that as to the attic, specific and conclusive as it is in its very nature, its function shall equally be so in force, in significance, in continuity, in conclusiveness of outward expression? From this results, naturally, spontaneously, unwittingly, a three part division—not from any theory, symbol or fancied logic. And thus the design of the tall office building takes its place with all other

architectural types made when architecture, as has happened once in many years, was a living art. Witness the Greek temple, the Gothic cathedral, the mediæval fortress.

And thus, when native instinct and sensibility shall govern the exercise of our beloved art; when the known law, the respected law, shall be that form ever follows function; when our architects shall cease strutting and prattling handcuffed and vainglorious in the asylum of a foreign school; when it is truly felt, cheerfully accepted, that this law opens up the airy sunshine of green fields, and gives to us a freedom that the very beauty and sumptuousness of the outworking of the law itself as exhibited in nature will deter any sane, any sensitive man from changing into license; when it becomes evident that we are merely speaking a foreign language with a noticeable American accent, whereas each and every architect in the land might, under the benign influence of this law, express in the simplest, most modest, most natural way that which it is in him to say: That he might really and would surely develop his own characteristic individuality, and that the architectural art with him would certainly become a living form of speech, a natural form of utterance, giving surcease to him and adding treasures small and great to the growing art of his land; when we know and feel that Nature is our friend, not our implacable enemy—that an afternoon in the country, an hour by the sea, a full, open view of one single day, through dawn, high noon and twilight, will suggest to us so much that is rhythmical, deep and eternal in the vast art of architecture, something so deep, so true, that all the narrow formalities, hard-and-fast rules, and strangling bonds of the schools cannot stifle it in us—then it may be proclaimed that we are on the high road to a natural and satisfying art, an architecture that will soon become a fine art in the true, the best sense of the word, an art that will live because it will be of the people, for the people, and by the people.

THE MODERN OFFICE BUILDING.*

BY BARR FERREE.

PART III.

THE design of the office building falls naturally into two great divisions: the structure and the architectural form. The former belongs to the engineer, the latter to the architect. The engineer has a necessary part in the design of the office building, inasmuch as his services are essential for the making of the foundations and the erection of the steel skeleton. To him belongs, also, the preparation of the frame for the coating of stone, or of brick or terra cotta, and similar mechanical matters. These problems are so complicated and varied as to require the services of a specialist.

But because the engineer is rightly employed for the engineering of the high building, it must not be supposed that the architect may be ignorant of his duties or independent of his work. Every structural detail must be studied and understood by the architect. The relations of the two are coördinate, and each must know the other's province, and keep the other's purpose in view as well as his own.

That this is not always so, the history of modern office buildings often too clearly shows. It is not unusual for an architect to prepare his design on his drawing-board, and then send for an engineer to arrange its construction for him. On the other hand, it would be easy to point out designs apparently made by an engineer, and certainly carried out without the supervision of an educated architect. That there is more or less friction between the architect and the engineer; that the architect looks upon the engineer as too "practical," the engineer upon the architect as too visionary, is a fact not to be denied by those who have watched the development of the two professions. Only by the warmest sympathy and constant coöperation can the design of an office building be carried out in a proper spirit and with satisfactory results.

The exterior of a building is generally the criterion by which its success is measured. It is unreasonable that this should be so, for few structures—and especially few modern structures—are built for external show. But the office buildings have so little to offer within, in the way of ornament or of art, that the general public, and perhaps the architectural public, have fallen into the habit of judging them by their façades. A not unnatural consequence has been that a finely designed office building has now a greater commercial value than one that is badly designed; a good-looking building is thought more of than an ill-looking structure; and so the façade has a monetary value in these buildings which it does not always have in other structures.

From the commercial side of the question, it is quite as necessary to develop the artistic aspects of the high buildings as the structural. And, certainly, it is a monstrous architectural sin to put up buildings whose single merit shall be their size, and whose chief distinction shall be their hideousness. It is true we have many buildings, distributed throughout the cities of our land, of which no more can be said; but, with a wider appreciation of the value of æsthetics in commercial buildings, there must come a change for the better. Those that have been built must needs remain where they are; but those that are to come must, inevitably, show a betterment in design, as they will, unquestionably, show a betterment in construction.

The structure of a building lies at the basis of its design. This is a fundamental fact in architectural æsthetics. Now, in a sense,

* A lecture delivered before the Franklin Institute, November 15, 1895.

the modern office building does not show its structure, either within or without; the steel columns and girders and beams whereon it is carried are covered up by the exterior surfacing or by the fireproofing or coating within. It is impossible to tell a solid wall from one built on the skeleton principle, and the structure of a hybrid or complex wall is equally invisible. How, then, it may be asked, can we have a successful high design, if, at the outset, a fundamental principle of design is ignored? This question has been asked many times, and architects have learnedly discussed this point without, it must be admitted, throwing much light on it. But the question need not be asked in this way. The structure is, indeed, the basis of the design in the high building, as in the low one; but this does not call for the unveiling of the metal skeleton, nor for a frank display of the material of the structure. The *structure* may be shown, but the *materials* are necessarily hidden.

For it is admitted on all hands that steel and iron are impossible materials for high structures unless they be covered with a fireproof material. That, indeed, is one condition of their serviceableness. A naked steel column would be a source of constant danger. It would suffer deterioration from dampness and from contact with the atmosphere, and a fire would be fatal to its stability. A high building of any sort, in which the steel lines of the columns and girders would form a feature of the external design, would be too dangerous to warrant erection. We cannot, then, show the material of our building in the design, though we may, in a sense, show its structure.

Not only are there structural reasons prohibiting the direct employment of the metal frame as a basis in the design of high buildings, but those structures in which the architectural framework has been reduced to the smallest limit, so that the building is little more than a skeleton of brick or terra cotta, show how unsatisfactory such a treatment is aesthetically. The Reliance building, in Chicago, is, perhaps, the most notable attempt yet made to reduce the amount of the inclosing material to a minimum, and the design is scarcely more than a huge house of glass divided by horizontal and vertical lines of white-enameled brick. The Fisher building, in the same city, and the Mabley building, in Detroit, are other examples illustrating the same tendency, though in not quite so pronounced a fashion as in the first instance. It is a good principle in architecture that a building should not only be firm and strong, but that it should seem so. This reasonable requirement is not fulfilled in these designs. A high office building requires an appearance of being built solidly to produce the best effect, or, indeed, to produce an architectural effect. This, however, does not excuse the exaggerated effect of heaviness and stability that may be seen in some designs, and which is quite as bad as extreme tenuity. Perfect naturalness of expression, good taste and an understanding of the structural requirements of the problem are all the architect needs in designing his façades.

A few years ago ten or twelve stories were considered formidable altitudes for office buildings; today seventeen, eighteen, twenty and even more stories are talked of and built as a matter of fact and as scarcely out of the ordinary run. And not only are these buildings high, but they are relatively narrow. This is true more particularly of New York than of Philadelphia or Chicago, in both of which cities, and especially in Chicago, many of the large office buildings are on sites of generous size, to the great dignity of the design, and to the very considerable lessening of the difficulties of the architect. In New York the custom of selling land in lots of 25 by 100 feet has given many of the office buildings an especially unhappy dimension in width, which has rendered a pleasing design a matter of much difficulty for the architect, and which has, in many cases, caused many disastrous results. New York has no such unmonumental office buildings as the Masonic Temple, the Woman's Temple, the Auditorium, the Schiller Theater, the Monadnock Block, the Marquette and Old Colony buildings, and many others in Chicago.

The height is, therefore, the leading element in the structure of the modern office building. Each additional floor adds to its value, and to its natural upward tendency. The vertical element is thus the leading factor in its design, and the architect who most successfully employs this feature achieves a real success in the handling of this very difficult problem; for it is a difficult problem to solve. The historic styles, save the Gothic, are concerned with low or horizontal designs. History and precedent differ little to the designer of the high building, which is at once the most modern of buildings, and an entirely new thing under the sun in architecture. And although modern architecture offers nothing in sequence to the older architecture, save in point of time, it is a task of no small magnitude to break away wholly from tradition and design in a new way for a new purpose. This, however, is just what the architect of the high building has to do, and the speedier this is admitted, the better it will be for the appearance of our streets and the progress of our architecture.

The first problem the architect has to study in his design is the plan. His site must be advantageously used, and his interior disposed so as to secure the most economical use of space, and thus the utmost financial return to his client. The economizing of space led to the introduction of the skeleton system, and the necessity of keeping this in mind follows the architect at every step of his work. The first requirement is that every office shall be well lighted, and as every office building is of considerable depth, it is necessary to arrange properly disposed courts. An early method was a central court with offices opening into it. This is not unobjectionable where the site is large enough to permit a court of good size, and the building is not of too great

height. These conditions are admirably fulfilled in the Metropolitan building in New York, where a spacious interior court, lined with white enameled brick, affords as much light to the interior offices as the rooms on the street receive on the exterior of the building. The Masonic Temple in Chicago has also a central court, but here it is most unsatisfactory; the building is enormously high, and the court is roofed at the top so that artificial light must be burned in the interior rooms throughout the day.

A more rational plan is an exterior court, which may be made part of the design of the façade, or may open at the back, and be there connected with similar courts in buildings on the adjoining lots. The Union Trust Company's building in St. Louis is a good example of the former, and the Wainwright building, in the same city, and the Stock Exchange and the Marquette buildings in Chicago of the second. It has, indeed, been argued that the courts of a high building should always open to the south; but experience will show that they should open on the largest space, no matter what may be the direction of the sun. When the court is behind the façade the design then becomes the treatment of the inclosing wall, and the front does not differ from that of a building with a central court. When it is on the main street it is the leading feature of the design.

The disposition of the courts settled, the arrangement of the offices, the location of the elevators, the size and position of the windows, as well as the position of the columns of the frame, must all be carefully thought out and placed, before the final architectural expression is begun. The situation of the elevators is usually without any influence upon the architecture of the fronts, save as determining the location of the entrances; but all the other elements have a natural and right part to take in the final task.

Every architectural design must have a beginning, a middle and an end. It certainly must begin, and the very highest of high buildings as certainly comes to an end; the space between forms the center. Translating these obvious conditions into architectural language, the front naturally falls into base, superstructure and frieze, in which each part has a logical and necessary function—the base as the beginning, the frieze as the ending, and the superstructure as the main portion between the others; for the base and the frieze cannot, either singly or together, form more than a small portion of the whole. A writer who would consume most of his space in beginning his essay, or in composing his peroration, would seem to have very little to say; so an architect who uses up his façade in getting his building started, or in bringing it to a conclusion would, build he ever so high, have, at the end, produced a minimum of building.

In speaking generally it is, of course, impossible to lay down rules to be followed in every case. We cannot say that a base should consume so many stories, the superstructure so many and the frieze the balance. The heights of our buildings are too varied, the nature of architectural work too free, to be limited by such arbitrary regulations. But it should be remarked that the general practice in New York is toward high basements, and in Chicago and the West toward relatively low ones. That the latter are the more logical can scarce be argued; for the base is only the beginning of a building, and its function is only that of supporting the superstructure, which, as logically, must be the main portion of the design. An exaggerated basement is, therefore, something to be avoided as unnecessary and unwise. Nor does the frieze need to be stretched out over the upper part. If practice shows, as it does in many buildings, that the uppermost story is needed for mechanical purposes, and be filled with tanks, piping and apparatus used in heating, lighting and ventilating, this difference of function may naturally be shown in the frieze, whose difference in design not only expresses this fact, but serves, at the same time, as the crown and finish of the building.

We have, therefore, three great divisions in a high design, each having a function of its own to express, and each having a logical meaning. But these three parts must form a unit. An office building is not a collection of various things put together in a single structure—though many of them offer a most singular diversity of parts—but it is a unit. The basement must be related to the superstructure, and the superstructure to the frieze, and each, in turn, to each other part. The high building must, moreover, be stately and dignified—majestic, if it can be, as all great objects are in nature. This effect, which is surely the chief one to be sought in the design of these structures, cannot be obtained through variety, or by cutting up the front into as many parts as possible, only to be arranged and fastened together by means of an internal skeleton of steel. But just as every part of the frame has a meaning, so must every part of the façade. The structure of the office building is an orderly creation, and its architectural or ornamental features must not violate this fundamental law.

Such is the basis on which all good high design must be constructed. Dignity, unity, sobriety, strength, truth; an expression of parts, an indication of function, a simple, straightforward use of materials employed in the telling of a simple story. We cannot, in our façades, show the number of offices housed within, any more than we can show the diversified interests that make the building their home; but we can at least keep within the bounds of reason, and proceed with our architectural part as deliberately, as soberly and as logically as we proceed with the structure of our frame. This, indeed, must be admitted and understood by the architect, or his design will be marred by those misunderstandings that have already fatally injured the beauty of many high office buildings.

(To be continued.)



SINCE my last letter to THE INLAND ARCHITECT I have been rambling in a free and unbridled way around the East, chiefly in Canada. I wrote you then something about the large buildings there and the impressions made upon me by them. I had not seen the residence part of Montreal at that time. There are a few fine, well-designed houses, such as Lord Stevens' and Mr. McIntyre's. Others are as pretentious but not so happy in design, such as the Gault house—a weak imitation on a small scale of the Potter Palmer castellated affair in Chicago. Then there are others, and their number is legion, of the most horrible dreams I have ever seen.

Everything is stone, gray limestone. A man is a nobody unless he has a gray-stone front, and as everybody in Montreal is striving to be a somebody such a thing as a brick or a frame house is comparatively unknown. They will put up with the poorest plumbing or go without any at all, but the gray stone is more essential, aye, than even a foundation.

The Canadians laugh at our Queen Anne cottages, brick and terra cotta fronts, our typical western frame and much be-gabled houses, and pat themselves on their self-righteous backs, saying, "We, at least, O Lord! go in for purity of design and honesty in materials." Yet they stick the most gingerbread porches, bays and other frills upon their veneered stone fronts, all cut out and jigsawed most beautifully, from 2 by 2 stuff; then paint them and sand them to match the stone, fondly hoping that the unwily and ever-moving tenant will really think that a 2 by 2-inch brace 6 feet long, or a 10-foot long 4-inch turned column is stone.

The Canadians are so blessedly conceited about such things; they express the greatest contempt for anything American, and are, as I say, so confoundedly self-righteous that I have not much patience in writing about them. They have gotten into certain ruts in design, construction and everything else. Proofs are abundant to illustrate their shortcomings, but do you suppose they would seize a new idea or adopt a better method? Never! Why, I heard apparently sensible men, at least prominent men,

in Montreal, discussing the advisability of petitioning the city council to forbid the carrying up of the telephone building higher than six stories, because, forsooth, it was built of only a skeleton of steel with thin walls, and they only of pressed brick (alas, no gray stone), therefore must the building be unsafe! If this sort of stuff came only from the layman—but even the architects sing the same song.

Talk about their being insular in their ways, why they have built a Chinese wall around themselves with but one gateway in it and that opens in the direction of "Home." England is "home" to every blessed Canadian, though

he never saw the old sod or even smelt salt water, and as long as a thing is English, just so long is it perfect.

One of the leading members of the "profesh" in Montreal was asking me if the World's Fair was really worth seeing. I, of course, began a glowing description of its beauties, expatiated upon its educational effects upon the world and wound up in wondering why he had not visited it. "Oh, well," says he, "I have seen all the London expositions since '54, and the Fair could only be a relash of those, you know."!!! Another shining light in Toronto to whom I expressed some astonishment at not seeing THE INLAND ARCHITECT or the *American Architect* upon his table, assured me that he had given up all the American journals long ago. "They contained nothing but designs poorly copied from the English papers anyway, so he preferred going to the fountainhead for his suggestions." Ye shades of Richardson and Huut, and ye who are still in the flesh and imagine you represent

an American school, think well on it, you but poorly copy your designs from the plates of the *British Architect*!

But I am rambling away from the gray stone houses I was describing—those of Montreal. There are isolated cases of narrow fronts on Mackay street, Drummond and a few others that, though a little strained, are fairly good to look upon; but the great majority, particularly the long rows, are simply execrable. I remember one on St. Denis street. It must contain some forty dwellings, and being upon a steep hillside these are stepped up one above another. There is no attempt at continuity of lines, but simply a rude chopping off at every step and beginning anew upon the other. The lower story is rustic, and is coarse and brutal in detail; the next is seemingly an addition made during the iron age, and it is topped out with pediments and impediments in the most Swiss chalet style you ever saw. I wish I had had my kodak along. I could make you a fairly accurate sketch from memory but you would accuse me of exaggeration. And this row is but a fair example of the extraordinary stuff called design that can be seen at every step one takes. It is a bit more noticeable on account of its great length and prominence.

Their churches and religious institutions are happier in design. There are many church spires that are artistic and most graceful, and some convents that, by reason of their picturesque massing and dainty detail, could be called beautiful buildings.

It is often a wonder to me that Montreal and Quebec can be as prosperous as they are, there exists there a hard state of affairs for the much-betaxed citizen by reason of these same beautiful convents and churches. First, they are generally built by subscription and sustained mostly by the same means, then are exempt from taxation. You see block after block, right in the heart of the city, doing duty as yards around these institutions; and worse still, blocks after blocks of stores, residences and other revenue-bearing properties, to their owners—the clergy or nuns—but not of 1 cent's worth of benefit to the city. The cost of policing, fire departments, street maintaining, etc., has to be assessed against the poor devil of a layman next door. One can imagine the burden upon the layman when he considers that nearly one-third of the Island of Montreal is owned by religious institutions.

Another thing in Montreal that impressed me unfavorably, and that was the plumbing in their buildings. The most primitive, unsanitary and unscientific one can possibly remember ever seeing, yet they keep on living and are comparatively healthy in the same unscientifically "plumbed" houses!

In Toronto one would imagine himself in a western American city. The people are quite English, but have unconsciously absorbed by contact a great deal of American push and way of doing things. Some of their larger buildings are conveniently planned and of pleasing exterior; the Board of Trade, McKinnon building, the Bank of Commerce, Canada Life, Confederation Life and Freehold Loan buildings are the principal and most attractive there. Their houses are quite tasty and not monotonous in color. A man can have a brick or even a frame house and yet be an ornament to society, and not be snubbed by the gray-stone fellows.

Ottawa shows some respectable buildings. Of course the Parliament buildings are there, and they give an architectural tone to the whole neighborhood. These same buildings present a strange anomaly in their composition. They are in as slightly a position and as commanding as could have been selected anywhere in the world. You see them for miles before reaching the city. The grounds around them are vast, well kept and artistically laid out; natural and not forced. The buildings, viewed from a distance, are most happily grouped, present a splendid sky line and strong masses. Near by they are pleasing in the selection of their material, a mixture of granite and parti-colored boulders laid up in a sort of rubble-work that harmonizes in color and rusticity most charmingly with the picturesque surroundings; but in design and detail they impress one as being the work of a butcher. Simply vile. One would imagine that a really clever artist had roughly sketched out the group in charcoal, said what material he wanted used, and then turned the job over to the office boy to complete. Quebec is one of the most picturesque places one could wish to visit. You see there some real old Norman buildings, quaint and most interesting. The new hotel, by Bruce Price, is the most prominent and newest building there. It is just the thing for the surroundings and adds to the picture. You see more ancient stuff, architecturally and otherwise, right in Quebec, and run across quainter people than you would in *la vieille Normandie* itself. Splendid place to spend a vacation in.

London and other second-class towns offer nothing for architectural consideration, except Hamilton, and it offers only brilliant examples of what to avoid in architecture. A town of its evident wealth and taste in other directions ought to import one good architect for awhile—I mean a clever one, *good* is not the proper adjective to use in qualifying architects, for are we not all good? The principal work seems to have been designed (?) by one architect who revels, yes, fairly revels, in red-brick and white-stone trimmings and ornaments and things, with galvanized-iron projections and "extinguishers." He dreads a bit of straight wall and abhors such a thing as mass; but he is said to be great on ventilation. It was here I saw the worst piece of pure architectural sacrilege on record. A pure Doric church front and entablature was being "improved" with a hip roof, a galvanized-iron cornice, and, to add to the effect, wooden rosettes were nailed to the stone walls beneath. The architectural sins of some towns in the United States as well as in Canada would lead one to think that this was the real cause of the destruction of Sodom and Gomorrah.



I stated once that there were over 10,000 students, or draftsmen, in these United States of ours. That statement has been contradicted by some friends of mine—very flattering and surprising, for it shows that they read "Ramblings," something I never expected of them—and I hasten to further state that I meant there were, and will be that number again during good times. Not now; though I presume a draftsman is a good deal like a leopard, can't very well change his spots, and "once a draftsman always a draftsman." The wonder is, to me, what does become of them during times of depression such as the present. I can account for some who had to abandon architecture and who are now at work in factories and foundries, laying out work, detailing, etc.; but what becomes of the hundreds not accounted for that way? Take, for instance, some of the large offices in Chicago where twenty and more assistants were employed a couple of years ago. Today where are all these pomp-adoured and haughty young gentlemen? The same offices shelter, perhaps, only half a dozen or less. Do the others go to farming, or what becomes of them?

I heard of one poor fellow the other day—a sad story. He had worked, upon a good salary, in a Western city, until 1894, when, along with many others, he lost his place; no more work to do; since then he, his wife and three children, have been eating up their little savings and what he could get at an odd job now and then. In January last he, in sheer desperation, spent his last cent in getting to Cripple Creek, where, as do thousands of other poor, deluded wretches, he thought he might make a living, or, perhaps, even amass wealth! He was a sober, industrious and really capable man; but every branch, every opportunity there for work has a hundred starving, clamoring applicants for the place. He could find nothing to do, he was without shelter and almost starving. The change, the hardships, the climate affected him so that brain fever set in and he died two weeks ago; his death-chamber a barroom, his coffin a deal box given by his only benefactor, a teuder-hearted bartender!

Veracious friends who have visited that region depict it to me as something awful; starvation, women and little children dying by the wayside, a veritable hell upon earth. And yet we read glowing accounts of the rich finds made there and of such and such a company just being formed, with a capital of so many million dollars; that all are welcome, and that there is work for everyone!

Draftsmen who have lost good places, who have had to retire into innocuous desuetude, so to speak, on account of the recent and, alas, present depression in business, have the poor consolation of seeing their erstwhile "bosses" traveling upon the same towpatt as themselves. For the architects of the country have suffered quite as much as men in other lines and more than men in other professions, particularly in the West, and moreover they cannot, as men in other lines can and do so often, "assign," or make a profitable failure. We seem to be less provident than those other men. Money seems to slip through our fingers as does sand through a No. 4 sieve. We "make" money easily enough and some of us make a good deal of it. Is it that being generally of more or less artistic temperaments we enjoy the good things of life more than others do, and live and have our being more expensively than those others? Or is it that we simply lack the commercial spirit of acquisitiveness and hanger-on-ness? But go it does, and mighty few of us have anything worth while to show for it, that is from a business point of view or something that could be used as collateral. Some have acquired great experience by travel; others have acquired large and expensive families, and still others have acquired only a chronic thirst—for glory and other effervescents.

I was discussing this matter recently with one of the leading men in the profession, a man who has had so great a success and been in vogue so long that one would think that surely he must have laid away something from his commissions upon the millions of dollars' worth of buildings he has erected. He is a man of exemplary habits, reputed to be keen and wide-awake in all business transactions, and is known to have had splendid opportunities

offered him, by his admiring friends, to make profitable investment of what money he could save. Yet this same man confesses to a mortgaged homestead and not another asset to his name.

Another, in the far West, did save and invest some money—chiefly in mines, years ago. He was rated in 1894 at \$160,000, drove a span of blacks, rode a



"chestnut-brown," and was quite a "fellow." Today he is an applicant for a sixty-dollar-a-month government job, is *sans* horses and *sans* being "anybody."

All of us have had to cut down like the deuce, many of us have had to stretch over a drawing board and bring a set of muscles into play that were well nigh moss-grown, and some of us are writing and copying our own letters and making a sweet mess of them, too, instead of majestically dictating them to a pretty stenographer—did you ever notice that architects generally *had* pretty stenographers?

As a result of all these hard lessons, will we be more careful in the future, when times revive again? Will we chase the elusive dollar with greater zest, and having caught him, will we plant him away in some shady corner where he will increase and multiply after the manner of his kind, and be a prop, a wall to lean upon in our old age; a well-filled storeroom in the event of another paucity and time of depression, that is bound to occur again, as sure as fate, in a score of years or so? Not a bit of it. We will go right ahead just as if good times were to last forever; we will spend all we get, and if caught again we will growl just as loudly as we do now, and abuse the country, the silver or the gold party, the administration, everything but the rightful cause, our own blessed general and professional improvidence, with a big I.

Did you ever notice what cranks architects are upon inventions? Is there one among us who, some time or another, has not devised some wonderful thing, that, by the way, rarely ever works or brings in a penny? And it is hardly ever in any line that he is expected to know much about. One would naturally expect them to dabble with things structural, electrical devices, window lifts, fireproofing, etc.; but no, it is always in the most foreign branches. I find in the Patent Office in Washington a milking device by an architect. Some clients might say that that was not a foreign matter to architecture, but the one I saw was for milking a cow. Another architect, well-known, too, has patented a ventilated cork sole for a shoe; another, a corkless bottle; another, a baby's bottle; a submarine boat, a flying machine; and so they go. The only one I ever heard of as having been successful was Cutler and his mail chute, and what a bouanza that is! Better than a gold mine. My own hobby has been the reproduction of drawings by a simple mechanical process.

"I GO A-FISHING."

THE spring of 1896 will be long remembered by those who enjoy the country and take note of the changing seasons, as most exceptionally beautiful in the development of the year's verdure. Particularly will this be the case with those who are wont to ply the rod and line and cast the frog among the lily pads. The lakes of Lake County, Illinois, and of Wisconsin, along the line of the Wisconsin Central, seem to have become alive with bass and pickerel, and exceptional catches have already been reported in the early season with exceeding promise for the later fishing, after the spawning season is over. As has always been its wont the Wisconsin Central has inaugurated its summer system of fast and convenient trains and low rates, so that two hours' ride will take the sportsman to the scene of his endeavors, and a \$5 bill give more pleasure and health than any other similar investment. The hills are covered with the most luxuriant grass, the trees in full leaf, and the meadows yellow and white with the embroidery of spring's coronation robes. This year special arrangements have been made to take care of every description of tourist travel, whether it be to the lakes of Wisconsin, the Lake Superior country, or to the great divide over the Northern Pacific. With this latter connection it is one of the greatest systems in this country of great railroads, and throughout its entire length to Portland, Oregon, its course runs like a river through the most picturesque of American scenery, and every sportsman knows its lakes, rivers and game-infested woods to be incomparable in accessibility and plentitude of sport. At this season, as the fisherman who has not seen the outside of an office for six months or more feels the promise of the south wind in his blood, he repeats unconsciously those lines of Stanton's:

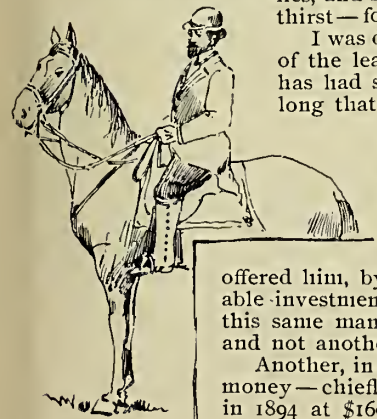
"When the hills 'way off are looking green and blue,
It's time to take a day off with the daisies and the dew.
Don't you wish for a fish when the trees are going swish?
When the honeysuckle's cliugin' an' the cattle bells a-ringin',
Don't you wish?"

"Don't you pine for the shine of the meadows cool and fine?
When you'll hear the cattle lowin' and see the flowers a-blowin',
And the world with beauty glowin',
Don't you pine?"

He at once overhauls his tackle box, and with his friend, his oldest boy or his wife, takes the Wisconsin Central to one of the hundred lakes on its line. Of course he repeats Stanton, and his friend, who has read that bard of the South, too, repeats one of his verses with an inflection in his voice, which seems to give it a personal application when he says:

"The winds are quite invitin'
An' they're gettin' down to play
Where the silver perch are bitin',
In the cool lakes far away.
The violet's peepin' from the sod,
The sweetheart's at the gate—
One har's got a fishing rod,
T'other's diggin' bait."

But with a string of bass of which he is proud, and a sun-blister on the back of his neck to which he is indifferent, he returns and marks a white day on his calendar and goes again.



OUR ILLUSTRATIONS.

Foreign Sketch.
A Chicago Residence.
Foreign Sketch. A. Ronlean, del.
View in Library, a Chicago Residence.
Rustic Sketches by E. Eldon Deane, New York.
Washington Park Congregational Church, Chicago. Patton & Fisher, architects
Courthouse, Monmouth, Warren County, Illinois. Oliver W. Marble, architect, Chicago.
Hackley Manual Training School, Muskegon, Michigan. Patton & Fisher, architects, Chicago.
View in Reception Hall. Residence of Charles V. L. Peters, Edgewater, Chicago, Illinois. George W. Maher, architect.
Northern Illinois State Normal School, De Kalb, Illinois, 400 feet frontage by 300 feet deep. C. E. Brush, architect, Chicago.
Photogravure Plate: Residence, Evanston, Illinois.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

The Daily News Building, Chicago. D. H. Burnham & Co., architects.
Entrance, Marquette Building, Chicago. Holabird & Roche, architects.
Residence of Arthur T. Aldis, Chicago. Holabird & Roche, architects.
Entrance, Fort Dearborn Building, Chicago. Jenney & Mundie, architects.
Residence of Charles V. L. Peters, Edgewater, Chicago, Illinois. George W. Maher, architect.
Residence of R. D. Sheppard, Evanston, Illinois. H. Edwards-Ficken, architect, New York. Two full-page exterior views are shown.

ASSOCIATION NOTES.

ANNUAL MEETING OF CINCINNATI CHAPTER, A. I. A.

On April 22 the Cincinnati Chapter of the A. I. A. celebrated its twenty-sixth anniversary. This function was appropriately observed at the table at the Gibson. But antedating this came the annual meeting and election of officers.

At 5 o'clock Messrs. George Rapp, Charles Crapsey, Gustav Drach, James W. McLaughlin, John H. Ball, W. A. Taylor, A. O. Elzner, S. O. Des Jardins, Samuel Hannaford and S. S. Godley met, and inside an hour's time had elected officers for the ensuing year and attended to some very important business. The election resulted as follows: President, Charles Crapsey; vice-president, James W. McLaughlin; secretary, Gustav Drach; treasurer, George Rapp. The vice-president and secretary succeed themselves. The executive committee remains the same, except that the vice-president is added.

The business of the meeting included an amendment to change the by-laws so that no officer may serve more than two years consecutively, which prevailed, and a discussion of new and pending state laws. If the report is correct that the bill is now a law, which empowers local councils to pass ordinances for regulating buildings and the appointment of building inspectors, the Chapter will request the corporation counsel to draw up an ordinance to be presented to the B. of L., asking the adoption of the building law as it now stands. They approve of the conditions which removes the power of appointment from the mayor to the B. of L.

Artists Henry Farny, Frank Duveneck, L. H. Meakin and Adolph Vollmer were invited guests at the banquet, which followed at 6 o'clock. There the sentiment was favored of an interchange of memberships, and a greater unanimity of interest in common than now exists.

DETROIT ARCHITECTURAL SKETCH CLUB.

At the last regular meeting of the Detroit Architectural Sketch Club, April 20, Mr. John Robert Dillon, formerly of Chicago, addressed the club, outlining the work accomplished by the Chicago Architectural Club, of which he is a prominent member. At the meeting previous to this, Mr. Zachariah Rice addressed the club, using as his subject "The History of Ornament." The club's directors are now making arrangements for a series of papers to be read at the regular Monday evening meetings, and are corresponding with many well-known architectural authorities for the desired materials. The club, having brought about the Saturday afternoon holiday, will soon inaugurate a series of sketching tours to alternate with the regular Saturday afternoon classes. The regular semi-annual election was also held at the last meeting to fill the offices of secretary and directors. Edward A. Schilling was re-elected secretary, and Alexander Blumberg and M. S. Wilcox, directors.

CHICAGO BUILDING TRADES CLUB.

On April 28, the Building Trades Club, organized several months ago at Chicago, gave its first annual dinner at the club rooms at 118 Monroe street. As this was the formal opening of the club, many guests prominent in the National Association of Builders, as well as civic officers, were present. Among the guests were W. H. Sayward, secretary of the National Association of Builders; Stephen M. Wright, secretary of the New York Building Trades Club; George Beaumont, president of the Illinois Chapter of the American Institute of Architects; George B. Swift, Mayor of Chicago; George Birkhoff, president of the Chicago Real Estate Board; Frank Carreck, secretary of the Chicago

Builders' and Trades' Exchange; Milton Blair, of Cincinnati; Lowell H. Carr, of New York, and C. C. Kohlsaat, George C. Prussing, the Rev. M. J. Dorney, D. F. Crilly and others, numbering about one hundred and fifty guests.

The membership of the club, which was organized largely for social purposes, already includes over one hundred of the leading builders of Chicago, and is rapidly growing. The rooms are handsomely fitted up and in charge of the secretary, Mr. E. E. Scribner, one of the charter members, and a past president of the National Association of Builders. Indeed, it is largely owing to the suggestion and active support of Mr. Scribner that the club owes its existence, and, under the able directorship of its president, Mr. Joseph Downey, its influence upon the building fraternity not only in Chicago but in the West will be far-reaching and important.

One of the pleasant incidents of the banquet was the presentation to the club by D. V. Prington, of Chicago, of a splendidly executed crayon of W. H. Sayward. John Stevens, of Philadelphia, who was unable to be present, had written that at 10 o'clock he should drink to the success of the club, and at that moment the company drank a health to Mr. Stevens, and the chair announced that the handsome picture "The Iron Worker and Solomon" was a present from Mr. Stevens to the club.

ARCHITECTURAL LEAGUE OF NEW YORK.

The Architectural League of New York, at its annual meeting last evening, elected the following officers: George B. Post, president; Frederic Crowninshield and Daniel C. French, vice-presidents; Bruce Price, executive committee, class of 1897, and C. A. Rich, R. W. Gibson and F. C. Jones, executive committee, class of 1899.

PERSONAL.

ARCHITECT THOMAS HAWKES, of Chicago, has removed his office to 76 and 78 Metropolitan Block.

THE office of THE INLAND ARCHITECT is now located at 409 and 410 Manhattan building on Dearborn street, between Van Buren and Harrison streets.

MR. C. A. WALLINGFORD, architect, for the last eleven years of St. Paul, Minnesota, has returned to his native city, Indianapolis, with offices in the Coffin Block.

N. S. SPENCER, formerly practicing at Beatrice, Nebraska, and Stanford Hall, formerly practicing at Urbana, Illinois, have formed a copartnership for the practice of architecture, under the firm name of "Spencer & Hall," with headquarters in the Rugg building, Champaign, Illinois.

MR. CHARLES F. WINGATE, a well-known sanitary engineer in New York, lately wrote a letter to the *Sun*, calling attention to a new source of danger in the so-called "sky scrapers," in what he describes as drafts of sewer gas from the escape pipes of overtopping buildings into the windows, chimneys and light-shafts of adjacent houses. In a recent case, according to Mr. Wingate, the entire family of the superintendent of a large office building, occupying spacious rooms on the roof, surrounded by loftier buildings, but with a magnificent outlook over the harbor, have suffered from severe forms of zymotic disease, including repeated attacks of malarial fever, so that the family have been forced to abandon their apparently ideal quarters. Growing plants were destroyed by the virulent odors which penetrated their rooms, so that it was impossible to open windows, or to occupy the apartments for living purposes.

THE consolidation of all the lines of the Grand Trunk and Chicago and Grand Trunk Railways with its Lehigh Valley connection to New York and Vermont Central to Boston into one system was effected April 1. Mr. W. E. Davis, the general passenger agent of the latter road located at Chicago, has been promoted to the post of general passenger agent of the entire system, with offices at Montreal. Mr. Davis has earned a reputation second to none as one of the most progressive and able passenger agents in the country, and his promotion to this important office indicates a policy that will at once add to the effectiveness and the popularity of the Grand Trunk system; it will also insure the public that fast trains and schedule time, with all the comforts known to modern railway management, will be placed at the disposal of travelers over its lines. George B. Reeves is still traffic manager, and E. H. Hughes, the genial city ticket agent at Chicago, has been appointed assistant general passenger agent in charge of the passenger business of the seven lines of the system west of Port Huron.

NEW PUBLICATIONS.

WE have received the number of the *Digest of Physical Tests and Laboratory Practice* for April, 1896. The articles, although valuable, are mostly interesting to the engineer rather than the architect, except one, which is on scientific timber testing, which some architects may take an interest in.

"THE PEOPLE'S BIBLE HISTORY."—This great work which has just been issued by The Henry O. Shepard Company, of Chicago, Illinois, is a division of the Bible into fifteen sections, each section being written of by the most profound scholar in the world whose mental bent and experience has fitted him to its consideration. Not only that, the writing of each of the sections has been done

in harmony with the rest, under the able editorial care of Rev. George C. Lorimer, LL.D., of the Temple, Boston, Massachusetts. Writers of eminence in all the great centers of learning in Europe and America concentrate their Biblical learning in this remarkable book. Of it the president of Boston University, William F. Warren, D.D., says: "I think the general public are to be congratulated when such an international group of scholars unite in an effort to present the sublime story recorded in the Bible. The work is sure to be a treasured possession in thousands of Christian homes."

It has been prepared with all the taste and skill for which the press of The Henry O. Shepard Company has become famous. The illustrations are superb in their beauty of conception and execution. The type is new and beautifully clear, and the binding perfect. The popular edition is procurable in cloth, in half russia, and in full russia. Agents are wanted. An edition de luxe has also been brought out, containing 1,283 pages and 200 full-page illustrations and maps.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT, }
CHICAGO, MAY 10, 1896. }

The four months of 1896 have not shown the character of the year. Hesitancy characterizes trade, industry and commerce. While the production of manufactures and the volume of business is somewhat greater week by week and month by month than last year, the total volume, in view of our enormous producing capacity, is not sufficient to enable producers to maintain more than moderately remunerative rates. Raw material in some directions is relatively higher than the finished product. Productive capacity has been restricted with and without combinations, and in several lines prices have been crowded a notch or two above the point they would reach without associated effort. General conditions are healthful. Our industries though not overcrowded are enjoying reasonable activity. A vast amount of machinery has been put up during the past few months, and makers of machinery, engines, boilers, tools, equipments and appliances are more than usually busy. Yet there is a hesitancy awaiting. Liquidation is going on in some quarters. The railroads have not yet begun to buy heavily. Bankers pursue very conservative policies. There is a multitude of new enterprises waiting for the start. Better conditions are not far in the distance. Agricultural prospects are fair. Unfavorable crops in foreign lands promise to help American cereals. While there is yet no upward trend of prices, there is a solid groundwork that promises firmer prices in midsummer. The earning power of the people is slowly increasing, as is evident in many ways. Building operations during the past month have assumed large proportions. House-building especially is active. There is an important expansion of shop and factory capacity, also quite an increase in office-building in the larger cities. The iron and steel makers look for better markets, coal miners mining more coal than last year, lumber producers are more harmonious than a year ago. Makers of building material have closed season contracts at fractional increases over last year. Regarding labor agitations, the workmen have not agreed upon any aggressive action for shorter hours. They anticipate in some localities an evening-up of conditions. Their organizations are well maintained, and conservative men have been chosen as officials. Rash action is improbable. Reasonable notice of demands will probably be given. The general condition of the wage-workers has materially improved within five years, mainly through decreased cost of living. Disemployment has been the most unfavorable feature of recent years, but the indications now are that capital will open more avenues for employment within the next few months.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Buffalo, N. Y.—Architects Winslow & Wetherell, Boston: For Shearer & Holloway, six-story apartment house; to be built at corner of Seventh and Vermont streets; to be of cream brick, with trimmings of stone; will be finished in hardwood, with sanitary plumbing, bathrooms, gas and electric light fixtures, steam heating, electric bells, etc.; cost, \$150,000.

Architect E. Henri Kelly: For Lakeside Cemetery Association, one-story stone mortuary chapel, 43 by 77 feet; to be built in Lakeside cemetery, eight miles southwest of the city; the walls will be of gray granite, ornamented with stucco and pressed brick, the frame of iron, the roof of tile, the floors of mosaic; there will be 144 catacombs in the mortuary proper, and the interior work will be of white Italian marble, two inches thick; cost, \$50,000.

Architect Frederic C. Brown: For a syndicate of capitalists represented by Dimmick & Newell, twelve four-story brick houses and a five-story brick family hotel; to be built on Elmwood avenue between North and Summer streets; houses will be of Dutch style of architecture; idea is to have a little group of Dutch houses and hotel, to be known as Holland Terrace; houses and hotel will have interior fitted in Dutch style, yet will have all modern improvements; estimated cost of houses, \$25,000 each; hotel, \$50,000.

Architects Porter, Porter & Schueus: For village of Depew, two-and-one-half-story frame engine and hose house, 30 by 60 feet; tower, sixty feet high, to be built on structure; will be fitted with slide-poles for firemen and other conveniences; cost, \$35,000.

Architect R. C. Paul: For Thomas Lovett, two-story brick and frame residence; to be built on Balcom street, near Linwood avenue; first story will be of brick, and second of frame; house will be finished throughout in hardwood, will have oak mantels, fancy fireplaces with tiling, gas fixtures, furnace, sanitary plumbing, bathroom, electric bells, etc.; frame stable will be built in the rear; cost, about \$10,000. For John Selmsberger, two-story brick and stone store and living apartments; to be built at the southwest corner of High and Mulberry streets; store will have plate-glass fronts and all modern improvements; apartments will be finished in hardwood, with grileworks, mantels, hardwood flooring, natural and illuminating gas fixtures, hot and cold water arrangements, sanitary plumbing, bathrooms, furnace, etc.; cost, \$9,000.

Architects Lansing & Beierl: For ex-Street Superintendent John S. O'Shea, one-story brick block of five stores; to be built on Court street near Franklin; stores will have large plate-glass fronts, will be fitted with gas fixtures and heated by steam; cost, \$12,000.

Architect John S. Rowe: For William Willganz, three story block of stores and apartments; to be built on the northwest corner of Carolina street and Prospect avenue; body of structure will be of Jewettville brick; façade of

Shawmut buff pressed brick, with trimmings of Medina sandstone; terra cotta will be used for decorations, with cornices of galvanized iron; stores will have plate-glass fronts, gas fixtures, furnace, plumbing outfit and other improvements; apartments will be finished in white oak in parlors and vestibules, and in South Carolina pine in natural color in other rooms; will be lighted by gas, heated by natural gas and furnace; will be provided with hot and cold water, bathrooms, electric bells, etc.; estimated cost, \$25,000.

Boston capitalists are said to be negotiating for the erection of a big hotel in the down-town district, and several theater schemes are budding. No local artists are working on plans for hotels or theaters. The projects, it can be safely said, have not yet assumed definite form.

Architect Morris Grant Holmes: For John B. Squire, two-story frame summer cottage; to be built at Lancaster; will be finished in pine, with improvements; cost, \$4,000.

The Board of Public Works will within a few days advertise for competitive plans for a sixteen-room brick school, to cost \$50,000, to be erected on the East Side. Another school of the same size will be begun before the summer is over.

Architect Louis Saenger: For German Deaconesses' Home, three-story brick house; to be built on Kingsley street near Humboldt Parkway; will be finished in pine and be fitted with bathrooms and water-closets, electric bells, natural and artificial gas fixtures, etc.; cost, \$25,000.

Butte, Mont.—Architect H. M. Patterson: A two-story country residence for A. J. Davis, of this city; to be erected near Gaylord, Montana; to cost \$7,500. A residence for C. W. Ellingwood, of Butte; to be erected at the corner of Washington and Silver streets; to cost \$6,000. A one-and-one-half-story cottage on West Broadway, for T. P. Newton; to cost \$5,000. A two-story tenement house on the west side of South Washington street, for A. Wehl; to cost \$8,000. The adding of three stories to the Silver Bow block, on West Granite street; to cost \$30,000. The outlook for the coming season here is good.

Chicago, Ill.—Architects Beers, Clay & Dutton: For M. H. Wilson, a three-story residence, 119 by 89 feet in size; to be erected at the northwest corner of Forest street and Greenleaf avenue, Evanston; it will be of handsome design in the Colonial style of architecture, of stone all round with tile roof, have very fine hardwood interior finish, the best of open plumbing, electric light, steam heating, etc. For Paul Fernald, a two-story residence, 17 by 64 feet in size; to be built at 4203 Vincennes avenue; it will be of stone front, have all improvements, heating, etc.

Architects Tinkle & Niess: For Albert Trostel & Son, at Milwaukee, a five-story warehouse, 200 by 45 feet in size; to be of common brick, mill construction, have the necessary plumbing, elevator, etc.

Architect George Grussing: For A. D. Hildegas, a two-story, basement and attic residence, 52 by 53 feet in size; to be erected at Winnetka; it will be of frame with stone basement, have hardwood interior finish, mantels and sideboards, gas fixtures, the best of modern plumbing, heating, etc. For William Kline, a two story and basement flat building, 61 by 25 feet in size; to be built at Jackson boulevard and West Forty-first street; to be of stone basement, have all the modern plumbing, gas fixtures, mantels, sideboards, interior to be finished in oak, have electric light, steam heating.

Architects F. & E. S. Bauman: For Messrs. Peterson & Scheeswohl, a two-story store and flat building, 50 feet front and 75 feet deep; to be erected at Evanston and Diversey avenues; it will be of pressed brick front with buff Bedford stone trimmings, have interior finished in oak and have all the modern sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures, etc.

Architect D. E. Waide: For United Presbyterian congregation, a two-story church and Sunday school, 60 by 90 feet in size; to be erected at the northwest corner of Lincoln avenue and Leland, Ravenswood; it will be of Bedford stone front with slate roof, have oak interior finish, plumbing, gas fixtures, toilet rooms, kitchen, steam heating, etc.

Architects Fowler & Wright: Making plans for a two-story, basement and attic residence, 25 by 45 feet in size; to be erected at West Pullman; it will be of pressed brick front with buff Bedford stone trimmings, have oak interior finish, the modern plumbing, gas fixtures, mantels and sideboards, laundry fixtures, heating, etc.

Architects Wilson & Marshall: For Hannah & Hogg, a four-story, basement and attic apartment building, 118 by 335 feet in size; to be erected at Lake View avenue, overlooking Lincoln Park; it will be of very handsome design in the French Chateau style, have two fronts of buff Bedford stone, Spanish tile roof, all hardwood interior finish, gas and electric fixtures, specially designed mantels, sideboards and consoles, marble entrance, mosaic floors, marble wainscoting, tile bathrooms, elevators, gas ranges and fireplaces, electric light, steam heating, etc.; the cost will be about \$250,000. Also for Hannah & Hogg, a store and apartment building, 119 by 22 feet in size; to be erected at Thirty-first street and Indiana avenue; to cost \$20,000; it will have a front of buff Bedford stone with copper bays and cornice, flat roof, interior to be finished in quarter-sawn oak, have all open modern plumbing, gas and electric fixtures, mantels and sideboards, gas ranges and fireplaces tile bathrooms, marble entrance, electric light, steam heating, etc. Also for Hannah & Hogg, preparing drawings for buffet room in the Fisher building, corner of Van Buren and Dearborn streets; to be finished in San Domingo mahogany, have mosaic floors, specially designed fixtures, etc.; cost \$25,000. Also for A. W. Hester, a three-story and basement Colonial residence, 30 by 65 feet in size; to be erected at Junior Terrace near the Sheridan Drive; it will be of buff Roman pressed brick trimmed with white terra cotta, have interior finished in mahogany, birch and bird's-eye maple, have all open nickel-plated plumbing, gas and electric fixtures, gas ranges and fireplaces, electric light, steam heating, etc.; cost \$12,000. For B. F. Miller, six three-story residences, semi-detached; to cost about \$100,000; they will be erected on Grand boulevard and Fifty-fifth street and have handsome fronts of Bedford stone and pressed brick, interiors to be all hardwood finish throughout, with special mantels, sideboards and consoles, gas and electric fixtures, the best of plumbing specialties, gas ranges and fireplaces, marble wainscoting, tile bathrooms, mosaic floors, hot-water heating, electric light, etc. Also making drawings for a pretty Colonial residence, to be erected at West Dayton, New York, for H. V. Wilson; it will be two-story, basement and attic, constructed of stone and frame, have hardwood interior finish, hot water heating, etc.

Architect S. M. Eichberg: For Charles Anning, a two-story and basement flat building, 45 by 70 feet in size; to be erected at 1088 and 1090 Lawndale avenue; to be of Bedford stone front, have oak interior finish, mantels and sideboards, gas fixtures, ranges, heating, etc.

Architects Schroeder & Koster: For J. Suter, a two-story and basement flat building, 25 by 70 feet in size; to be erected at 4814 Langley avenue; to be of selected variegated raindrop brownstone front, have all hardwood interior finish, mantels, sideboards, gas fixtures, laundries, etc. For Atkins & Freund, remodeling building, 25 by 117 feet in size, at Forty-seventh street and Ashland avenue; will put on new front, stone, plate glass and iron, plumbing, gas fixtures, electric wiring, etc.

Architect F. B. Abbott: Making plans for two-story, basement and attic residence, 25 by 60 feet in size; to be erected at Woodlawn avenue near Sixty-sixth street; it will be of buff Bedford stone front, all hardwood interior finish, mantels and sideboards, gas fixtures, etc. For Warren Springer, a nine-story factory and office building, to be erected at 171 and 173 South Canal street; it will be of pressed brick with terra cotta trimmings, have mosaic marble and tile work, elevators, electric light, steam heating, etc.

Architects Lapointe & Hickok: For Reverend Labrie, at Mokena, Illinois a two-story, attic and basement residence, 26 by 40 feet in size; to have a Tiffany pressed brick front with Bedford stone trimmings, oak finish, gas fixtures, mantels, sideboards, heating, etc. For L. W. Beganza, at Austin, a frame house, stone basement, modern plumbing, gas fixtures, furnace, etc. For Louis Roberge, a two-story residence, 25 feet front, at Fillmore street; pressed brick and stone, modern plumbing, gas fixtures, mantels, furnace, etc. Also making plans for two-story frame residence, to be built at Austin; stone basement, hardwood finish, heating, etc.

Architect H. M. Hansen: For M. S. Brady, a two-story, basement and attic residence, 22 by 45 feet in size; to be built at Rogers Park; to be of frame with stone basement, have hardwood finish, mantels, gas fixtures, furnace, etc. For C. A. Zander, a four-story store and flat building, 25 by 83 feet in size; to be erected at 1214 Clark street; to be of Roman pressed brick with Bedford

stone trimmings, gravel roof, have hardwood finish, mantels, gas fixtures, steam heating, etc. For W. F. Lubecke, at Buena Park, a handsome two-story residence, 37 by 54 feet in size; to be of stone and pressed brick all round, have electric light, steam heating, all open plumbing, etc.; cost \$15,000.

Architects McMichaels & Morehouse: Made drawings for St. Nicholas Roman Catholic church; to be erected at One Hundred and Thirteenth and State streets; it will be constructed of Milwaukee pressed brick with terra cotta trimmings and slate roof, have interior finish in oak, and pews will be provided for a congregation of 400.

Architects D. H. Burnham & Co.: For Mrs. Phillips, a five-story factory, 48 by 120 feet in size; to be erected at Adams and Jefferson streets, to have a pressed brick and stone front, plumbing, elevators, steam heating, etc.

Architect Thomas H. Mallay: For Dan Delaney, a two-story residence; to be built at East Grove; it will be of frame with stone basement, oak interior finish, gas fixtures, mantels, furnace, etc.

Architect George S. Kingsley: For R. A. Griefenhagen, a six-story apartment house, 50 by 112 feet in size; to be erected at 551 Dearborn avenue; it will be of pressed brick and terra cotta front, have hardwood interior finish, the modern sanitary improvements, gas and electric fixtures, electric light, mantels and sideboards, laundry fixtures, gas ranges and fireplaces, electric bells and speaking tubes, marble wainscoting and mosaic floors, steam heating, etc.

Architect Robert C. Berlin: Made plans for a handsome two-story, basement and attic residence, 33 by 58 feet in size; to be erected at Deming court, for W. A. Wieboldt; it will be of pressed brick and stone front, have hardwood finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, electric light, steam heating, etc.

Architects Gatterdam & Krieg: For Electric Park Amusement Association, at Elston, Belmont and California avenues, a pavilion to accommodate ten thousand people; it will be of frame and iron with steel-truss roof; 180 by 230 feet in size, with stage 100 by 30 and dance floor 100 by 120; there will be also bowling alley, billiard hall, restaurant, large kitchen, lavatories, bars, lunch counters, racing track, swimming bath, etc.; boiler house and electric light plant. For Theodor Hildebrand, a two-story and basement store and flat building, 25 by 54 feet in size; to be built at Kedzie avenue and Fifteenth street; it will be of buff Bedford stone front, iron and plate glass, have interior finished in Georgia pine, the modern plumbing, mantels, gas fixtures, heating, etc. For Charles Reimann, a two-story and basement flat building, 22 by 60 feet in size; to be built at Thirteenth street and Lawndale avenue; it will be of Bedford stone front, composition roof, have sanitary plumbing, mantels, gas fixtures, pine finish, electric bells and speaking tubes. For Delos Martyn, a store building, 33 by 70 feet in size; to be built at Freeport, Illinois; to be of brick with stone foundations, have galvanized iron and plate glass, modern plumbing, electric light, steam heating, etc. For Charles Morgan, a frame house, 25 by 43 feet in size; to be erected at Sixtieth and May streets; modern plumbing, gas fixtures, hardwood finish, furnace, etc.

Architect Paul Gerhardt: For A. Lindt, a three-story and basement flat building, 22 by 85 feet in size; to be erected at 349 Dayton street; it will contain front and rear flats and have all the modern conveniences, heating, etc. For M. Freese, at 1244 North Halsted street, a three-story flat building, 34 by 80 feet in size; to be of buff Bedford stone front, have Georgia pine and quartered oak finish, mantels, gas fixtures, etc.

Architects Patton & Fisher: For H. M. Harper, a three-story residence, 25 by 46 feet in size; to be erected at Oakenwald avenue near Forty-sixth street; it will be of pressed brick and stone front, have hardwood interior finish, mantels and sideboards, heating, etc. For C. W. Kirk, a two-story residence to be built at Highland Park. It will be of frame construction with stone basement, have oak interior finish, all conveniences and heating. Also closing bids for the Hackley Manual Training School, to be erected at Muskegon.

Architect Julius Speyer: For Peter Fortune, a three-story store and flat building, 50 by 150 feet in size; to be erected at the southeast corner of Van Buren and Francisco streets; pressed brick front with buff Bedford stone trimmings, hardwood interior finish, mantels and sideboards, electric light, all open nickel-plated plumbing, heating, etc.

Architect T. N. Bell: For D. E. Williams, a three-story flat building, 50 by 76 feet in size; to be erected at Sangamon street near Sixty-third street; Bedford stone front, oak and cypress interior finish, mantels, sideboards, gas fixtures and electric, the modern open nickel-plated plumbing, laundry fixtures, electric bells and speaking tubes, gas ranges and fireplaces and heating.

Architects Treat & Foltz: For H. J. Evans, seven two-story and basement houses, 122 feet front and 61 feet deep; to be erected at Warren avenue west of California avenue; they will have blue Bedford stone fronts, interior finished in birch and oak, have the modern sanitary conveniences, mantels, sideboards and consoles, marble wainscoting, gas ranges and fireplaces, electric light, hot-water heating. For E. S. Rice, a four-story and basement apartment house, 48 by 64 feet in size; to be erected at Sixty-sixth street and Wentworth avenue; the basement and first story will be of buff Bedford stone and above of pressed brick and stone, with copper bays and cornice, the interior to be finished in hardwoods and have the best of modern sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, steam heating and electric light. For John Garibaldi, a three-story flat building, 50 by 62 feet in size; to be erected at Illinois street, rear of Nos. 66 and 68; common brick, water-closets and sinks; there will be stable on the first floor and in the basement place for wagons, etc.

Architects Brainerd & Holsman: Making plans for Christian church, 80 by 90 feet in size; to be erected at Rock Island; it will be of pressed brick with terra cotta trimmings, have interior finished in oak, have plumbing, gas fixtures, hot-water heating, etc. For Rev. Otis C. Olds and American Board of Foreign Missions, a Congregational Mission church at Parvall, Mexico; it will be 50 by 83 feet in size, of cut stone and brick and iron roof. For William J. McElowney, a two-story and basement store, office and apartment building; to be erected at Chicago Heights; it will be of pressed brick and terra cotta front, gravel roof, have hardwood finish, sanitary plumbing, gas and electric fixtures, heating, etc. For William Ashton, a three-story and basement apartment house, 100 by 60 feet in size; at Forty-first street and Prairie avenue; first story of stone and the rest of pressed brick and stone, with gravel roof, interior to be finished in quarter-sawn oak, have the best of modern plumbing, gas and electric fixtures, mantels and sideboards, laundries, electric bells, speaking tubes, steam heating; the cost will be about \$35,000. For A. L. Kemper, a two-story and basement apartment house, 50 feet front, at 1885 Harrison street; pressed brick and stone front, gas fixtures, mantels, sideboards, heating, etc.

Architects Flanders & Zimmerman: For John O'Malley, a four-story apartment house, 102 by 90 feet in size; to be erected at Thirty-seventh street and Indiana avenue; to have a buff Bedford stone front, hardwood finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, laundry driers, electric light, steam heating.

Architects Schlacks & Ottenheimer: Made plans for a three-story and basement school and hall, 57 by 111 feet in size; to be erected at the corner of Noble and Cornelia streets; it will be of stone, pressed brick and terra cotta, have oak interior finish, marble floors, marble wainscoting, modern conveniences, electric light, steam heating, etc.; cost \$40,000. For Dr. J. Frank, a four-story and basement store and apartment building, 42 by 75 feet in size; to be erected at North avenue near Larrabee street; Bedford stone front, hardwood finish, modern sanitary improvements, gas and electric fixtures, electric light, steam heating; cost \$18,000. For S. Wedeles, a three-story and basement residence, 21 by 70 feet in size; to be erected at 3842 Lake avenue; it will have a stone front, hardwood finish, gas and electric fixtures, mantels, sideboards and consoles, gas ranges and fireplaces, laundry fixtures, electric bells and speaking tubes, hot-water heating, electric light; cost \$12,000.

Architect J. T. Fortin: For Mrs. Feiga Goodman, additions and alterations to flat building, 24 by 100 feet in size; corner of Fourteenth street and South Peoria; stone front, pressed-brick sides, copper bays and cornice, plumbing, mantels, laundry, tubes, etc. For Signor Antonio José Stefani, a two-story and basement flat building, 24 by 55 feet in size, at West Polk street near Douglas Park boulevard; to have a buff Bedford stone front, hardwood finish, mantels, sideboards, heating, etc. For Messrs. Goodman & Geisero-wich, a two-story and basement flat, 25 by 57 feet in size, at 2007 Grenshaw street; Bedford stone front, all open plumbing, mantels, gas fixtures, etc. Also at 611 Park avenue, a three-story and basement flat building, 22 by 62 feet in size; to have a Bedford stone front and all improvements. For John Paoli, at

592 Twenty-seventh street, a three-story store and flat building, 22 by 50 feet in size; to have a front of pressed brick and stone, galvanized-iron bay, oak finish, open plumbing. For Charles Zietenfeld, a four-story store and flat building, 22 by 63 feet in size; at 263 Thirteenth place; pressed brick and stone front, hardwood finish, mantels, sideboards, plumbing, etc. For Mrs. Anna Coletti, a two-story flat, 21 by 56 feet in size; at 846 West Huron street; pressed-brick front with buff Bedford stone trimmings, mantels, gas fixtures, modern plumbing, furnaces.

Architects D. E. & O. H. Postle: For J. C. Brown, a four-story store and flat building, 50 by 100 feet in size; to be erected at Ogden avenue and Taylor street; pressed brick and stone front, plumbing, etc.

Detroit, Mich.—Architect Edward C. Van Leyen: For Robert M. Zug, two-and-one-half-story brick residence, cut-stone trimmings, slate roof and heated by combination hot water and air; size 30 by 55 feet; cost \$7,000.

Architect William S. Joy: For William A. King, two two-story brick residences; cost \$10,000. For Hiram Adams, Waukesha, Wisconsin, two-and-one-half-story frame residence; cost \$6,000.

Architect Joseph E. Mills: For Anthony Wagner, Dearborn, Michigan, three-story brick hotel; size 90 by 100 feet; cost \$10,000. For August Stork, Marlette, Michigan, three-story brick block; cost \$6,000. For Moses Larges, two-story brick residence; cost \$5,500. For Marlette, Michigan, brick public schoolhouse; cost \$14,000.

Architect F. J. Grenier: For J. T. Hornung, two-story brick residence; cost \$9,000. For W. C. D. Lowrie, three-story brick and stone double residence; cost \$14,000.

Architects E. A. Walshe & Son: For District 1 of Springwells, Michigan, three-story brick public school; size, 120 by 84 feet; cost \$18,000.

Architects A. C. Varney & Co.: For Alfred Goodman, addition to Griswold Hotel, six stories high of brick with stone and pressed-brick trimmings, heated by steam; size, 94 by 72 feet; cost \$30,000. For W. A. Sterns, Birmingham, Michigan, two-story frame residence; size, 54 by 60 feet; cost \$5,000.

Architects Nettleton, Kahn & Trobridge: For Louis C. McBride, four-story pressed-brick apartment building, stone trimmings, tile roof and to be heated with hot water; size, 40 by 90 feet; cost \$20,000. For Edgar S. Dean, three-story frame residence; cost \$5,000. For same, four-story brick and stone apartment; cost \$17,000.

Architects Malcomson & Higginbotham: For Presbyterian Society, brick church edifice; cost \$15,000.

Architect S. C. Falkenburg: For H. H. Valpey, three-story brick and stone double residence, heated by steam; cost \$16,000.

Architects Baxter & Hill: For Tuller & Van Husan, two-and-one-half-story residence, of pressed brick and Ohio sandstone, slate roof and heated by hot water; cost \$8,500. For Harry F. Hollands, two frame residences, finished in hardwood; cost \$5,000.

Architect Gustav A. Mueller: For Schwarz Brothers, two-story pressed-brick block with stone trimmings, tin roof; size, 40 by 130 feet; cost \$6,000.

Architect John W. Coughlan: For Louis C. Rabant, three-story brick and stone double residence, slate roof; size 44 by 65 feet; cost \$6,000.

Architect D. B. Kressler: For G. A. Savory, two-story brick residence; cost \$10,000.

Architect Richard E. Raseman: For Edward Henkel, three-story brick double store; cost \$8,000.

Architects John Scott & Co.: For Frederick S. Case, two-and-one-half-story brick and stone residence; cost \$6,000. For Wayne county, Michigan, County building with entire fireproof construction; cost \$1,000,000.

Architects Donaldson & Meier: For Frederick Wettlanfer, two story brick block; cost \$5,000.

Architects Mortimer L. Smith & Son: For Furguson estate, six-story pressed-brick and stone and terra cotta trimmings, steel-frame construction; size 63 by 100 feet; cost \$80,000.

Architect Henry Englebert: For Servite Brotherhood, Chicago, convent and church of stone and brick; size 216 by 132 feet; cost \$120,000.

Architect Harry J. Rill: For A. Becker, two-story brick stores and residence flats; cost \$5,000.

Kansas City, Mo.—There has been no "building boom" in Kansas City the past year; no "rush," so to speak; nothing that it has been thought worth while to exult over, and most people will be surprised to learn that the cost of buildings and improvements in the city for the year ending April, 1896, amounted to \$1,601,800, and exceeded the same cost for the year ending April, 1895, by \$183,105. These are very satisfactory figures—\$1,600,000 put into brick and stone and lumber and labor, and an increase of \$183,000 over last year. It is a good sign and full of encouragement that building has gone on in all departments, business and residence, public and private. For public uses work has been done on the City Library building and the City Hospital and the new City Workhouse. Among the great works by corporations has been the new Stock Exchange, which cost \$60,000. A great many superior brick business houses have been built in the old heart of the town. A fact of interest is that out of the total of \$1,601,800 expended, the greater proportion, \$913,500, was put in buildings of brick, which means permanency, structures that have "come to stay." The character of the building done, both in the direction of business and residence structures, has been a vast improvement on the work of former years. Everything built now is for all time. Nothing is built with the expectation that it will serve a present purpose and then fall down or burn up, or be torn away to give place for something else.—*Kansas City Star.*

Milwaukee, Wis.—Architect W. A. Holbrook: Remodeling the Pierce block; cost \$20,000.

Architects Ferry & Clas: For Gall & Frank Company, business block, 120 by 130 feet in size; seven stories; first two stories stone, above brick and terra cotta; cost \$150,000.

Minneapolis, Minn.—Architect Frank Doe: For T. B. Walker, cold-storage warehouse, 40 by 330 feet in size; four stories and basement; cost \$60,000. Also for same, brick building, 47 by 60 feet in size; three stories; cost \$12,000.

Architect E. P. Overmire: Church, 94 by 124 feet in size; brownstone; cost \$50,000.

Jepson Company, architects: For A. M. Smith, residence of brownstone; cost \$12,000.

Architect Warren H. Hayes: Church at Wausau, Wisconsin, 66 by 110 feet in size; pressed brick and brownstone; cost \$20,000.

Architects Orff & Joralemon: Courthouse, Waseca, Minnesota; cost \$40,000.

Ogden, Utah.—Architect W. W. Fife: Store building, 53 by 120 in size; two story and basement; cost \$15,000. Also remodeling the Old Tabernacle, built in 1856; cost of repairs, \$10,000.

Omaha, Neb.—The first four months of this year show a marked improvement over last year, with just the month of March excepted. In that month of last year was built the Creighton Theater at a cost of over \$100,000. This amount could not be overcome in March, but outside of that permit there has been a gain on each month, and this April has more than doubled on last year's April permits. There are several large buildings in contemplation, which will most likely be completed during the summer months. Among the most prominent contracts now let and approaching completion are the following: The Davidge Flats, corner Eighteenth and Farnam streets, \$25,000. Omaha & Grant Smelting Works, \$5,000. The Franciscan Fathers have decided to build a monastery and church, the monastery to be 48 by 85 feet in size, three stories, of brick and stone, and church 66 by 137 feet in size. It is proposed to build a three-story monastery at an outlay of \$18,000. The church will not be completed this summer, but will cost some \$30,000. McCord, Brady & Co., wholesale grocers, are putting in an improved coffee-roasting machine, at a cost of near \$3,000. Booth Packing Company are adding a cold-storage plant, costing over \$5,000. W. H. Green is building a \$5,000 residence, and N. B. Rairdon a \$4,000 residence. There are over fifty dwellings being built, costing from \$1,000 to \$5,000 each. This, together with numerous repairs going on, shows a marked increase over last year's permits.

St. Paul, Minn.—Architect J. W. Stevens: Alterations Buckingham apartment building; cost \$20,000.

Architects Herman Kretz & Co.: Hotel, 50 by 95 feet in size; three stories, pressed brick, stone trimmings; cost \$30,000.

SPECIAL SUPPLEMENT.



VOL. XXVII.

MAY, 1896.

No. 4

TECHNICAL REVIEW, THE FISHER BUILDING.

THE FISHER BUILDING, CHICAGO—A BUILDING WITHOUT WALLS.

IN the evolution of the modern office building there is nothing more wonderful than that the fact should have been accomplished of erecting a building literally without walls. Steel and concrete foundations and steel frames, supplanting, for the same purpose, the old timber frames of our forefathers, have long



VAN BUREN ST. ENTRANCE

since, by a mere change of material, enabled us to build houses of enormous size with safety and economy, while other no less important inventions have enabled us to make them resist the demon of fire, which was the only terror of our ancestors, and make us believe almost that they will last forever. But such structures have always combined in their anatomy some features of contemporaneous buildings. If they have dispensed with front walls, they have retained often rear walls and those adjacent to other property. They have had division walls or stacks of vaults rising

ing; but not a wall, for it is supported independently at every floor. On the interior it is inclosed in a skin of hollow building tile from the bottom to the top. The total number of bricks used in the whole was 225,000, and these were employed in backing up and strengthening parts of the terra cotta of the fronts. *Only two bricklayers were employed at any time in this part of the work.*

The Fisher is located on the shallow block between Dearborn street and Plymouth place, fronting on both of those streets and having its south front on Van Buren street. The front on Van Buren street is 70 feet 6 inches, and the fronts on Dearborn street and Plymouth place are 100 feet each. The height is 235 feet from the sidewalk to the top of the cornice. Within these dimensions it contains 18 stories and an attic, while the basement, which extends out to the curb wall on three sides, is 3 feet below the sewer level of the adjoining streets. In addition to these dimensions, the north end is carried up one story higher to make room for the elevators, one of which carries loads from the basement to the attic, and its annunciator has twenty numbers. Its cubic area is 1,960,000 feet from the bottom of foundations, and it cost about \$575,000, or very nearly 30 cents per cubic foot.

The design in every detail of construction and ornamentation was by D. H. Burnham & Co., under whose supervision it was constructed. Situated as it is in the very midst of the business district of Chicago, it is surrounded by many of the most important business buildings of the city, and is conspicuous in that it overshadows all of its tall and stately neighbors. This admirable site has been employed to such advantage that all of the rooms and corridors throughout the building receive direct and uninterrupted light. The shape and size of the property are such that the corridors are short and T-shape in plan, with the result of great economy in office space. All offices have exterior light, and it was not necessary to vary the exterior outline except in the construction of bay windows above the second story, which may be found in every room from the third to the seventeenth story, inclusive. These facts at once render apparent the easy accessibility and cheerfulness of all parts of the building.

The ground floor is subdivided for shops. From each of the three surrounding streets a broad corridor, richly decorated in mosaic, leads to the elevators. The second floor is devoted to a spacious banking room, while the floors above are conveniently subdivided for all classes of desirable tenants. Six swift-running hydraulic passenger elevators of the most modern type, connect the eighteen stories in the shortest possible time.

It goes without saying that such a building is fireproof; that all constructive steel work, on which its whole strength depends, is protected with hollow fireclay tile; that the floors are of a similar material, being flat arches, on the latest and strongest end pressure system, and that the partitions are also of hard hollow fireclay tile of the lightest pattern. These, with the sanitary electric and heating appliances, which will be described more in detail later on, are all of the latest and most approved patterns. The

floors of the halls are of marble mosaic, and those of the rooms are of white maple, and whatever of inside finish in wood became necessary to use is of polished mahogany. All the halls are wainscoted seven feet high with veined Italian marble, but the remainder of the marble work will require a more detailed description under a proper heading.

A description of such a building cannot be complete without some allusion to the architecture. It would be an injustice to the progressive originality of a designer to attempt to show that a building filling all the modern demands for utility is subservient to any of the historical styles. Style cannot dominate the design of any such structure, and the most that an architect can do is to consistently follow a style of decoration most in harmony with the general arrangement of the exterior which the construction itself has dominated. In such a building proportions of doors and windows cannot be considered, any more than the proportions of the whole. The task is therefore the more difficult to combine the necessity for covering the structural parts with some form of artistic expression. This is seen in the details of the exterior terra cotta work, the entrances and the corridors of the first and second stories, where motives taken from the fifteenth century Gothic of Rouen and Bruges have been used with good results. All the minuter details of the interior in the ornamental iron, mosaics, hardware and gas fixtures have been similarly carried out. The terra cotta of the fronts tells what it is and does not presume to imitate stone. It is of a pale salmon color and has a spattered surface which adds much to its effect.

The contract for this building in every detail, even down to the door mats, has been executed by the Guaranty Construction Company of Chicago. The officers of this company are George M. Moulton, president; Theodore Starrett, vice-president, and W. D. Richardson, general manager. Its owner is Lucius G. Fisher, of Chicago. The illustrations, which we are now enabled to make complete, tell more than words what it is, and how it was built. Some of these photographs are part of its history which otherwise might pass into oblivion; they are dated and the reader is asked to note these dates. The interest in them grows with the knowledge that these contractors have accomplished some things that have not before been done. To make this clear a sort of time-table is necessary, which we will preface with the statement that from the day that the contract was signed, June 27, 1895, to the day the first tenants moved in, April 23, 1896, was nearly ten months—but the actual working time from the day the superstructure was started until the final completion of the building, was only a trifle over six months and a half. This time-table is as follows:

1895.

June 27.—Contract signed.

July 3.—Ground broken.

August —.—Commenced driving piles and commenced steel foundations over piles and concrete.

September —.—Piling, concrete and steel foundation completed.

October 3.—First piece of vertical steel skeleton started.

October 12.—First floor beams all set.

November 12.—Highest piece of steel on building set.

November 25.—Roof set and under waterproof cover.

December 10.—All hollow tile floor arches set.

December 12.—Contract let for interior marble work.

December 25.—Contract let for glass mosaic ceilings.

1896.

January 2.—Complete detail drawings for interior marble work received.

April 23.—First tenant moved in.

May 1.—Marble and mosaic contracts completed and building ready for all tenants.

An examination of the above will show that even in this ten-month building there were delays. The first was due to the failure to receive structural steel, in September, 1895. But it also shows that the whole steel skeleton above the first floor was set between October 12 and November 12. October has thirty-one days. In this time five days were entirely lost by bad weather, when men could not work in the open air. So nineteen stories, including the attic, were set in twenty-six days. But during that time there was a period when thirteen stories were set in fourteen days. During the whole time of building no overtime or night work was done, the same being specified in the contract, thus reduc-

ing the cost to the owner. The principal work was done during a fall and winter which were exceptionally severe, while the early spring was of little assistance to the contractors, because then the work was nearly all inside. If it is asked, "How could this be done?" we can only say that careful attention to details and intelligent division of labor have led to the result. There could be no mistakes under such a system. But there was a second cause of delay, and that was due to the fact that changes made in the first-story corridors by the owner led to the redesigning of the whole of that part of the work, and all of the materials had to be got out after January 1.

But while the main part of the work and the responsibility for the whole rested with the Guaranty Construction Company, they could not have accomplished this result without the hearty coöperation and prompt work, not admitting the possibility of any mistakes or the rejection of any imperfect materials or workmanship, on the part of their many sub-contractors.

A full description of the work must necessarily include these—without which any description of the building would be incomplete.

First in importance was the steel skeleton and beam work. The entire structure is supported on skeleton steel columns, which are riveted together so as to be continuous from the bottom to the top. These came together, just as they were fitted in the shop, in such a perfect way as to contribute more than anything else to the rapidity of the construction. After the first story was set, the material was delivered as fast as the contractors could handle it. As it is the intention of Mr. Shankland, one of Mr. Burnham's partners, to publish a description of the constructive steel work, and how it was handled, it will not be necessary here to go into the details of this part of the contract. It is only necessary now to say that within a week of this writing the strength of the isolated Fisher building has withstood a very severe test in a sixty-three-mile gale.

Next in importance is the fireproof work, all of which was done by the Pioneer Fireproof Construction Company. In the midst of many of the new and untried systems of so-called fireproofing, which seek adoption more by reason of their pretended cheapness than any other, the old methods of the Pioneer Company, which have been used in the best fireproof buildings that have been erected within the last fifteen years, have been used. The floors are of their latest patterns of end pressure flat arches, the lightest they have yet made, and the material is the same throughout, being the hard-burned fire-clay tile from their own clay beds at Ottawa. This tile gives reliable fireproofing not only through the nature of the material used, but the multiplicity of hollow spaces, and it has been demonstrated repeatedly that this is the most important measure of fire-protection. The worst that can happen to a hollow tile is the chipping off of the first face exposed to fire, which only results in the revelation of another web to offer new resistance, while the loss of the first does not destroy the stability of the work. It is interesting to note here that upon inquiry we have found that the material of this kind used in the Fisher building aggregates 206 carloads, weighing 3,620 tons—and it is the largest quantity of any one material used in its construction.

The entire exterior was built by the Northwestern Terra Cotta Company of Chicago, excepting ten stories of the north wall, which are of hollow building tile. But above this point they built the inclosure on the outside. There is little to add to our description above of the architecture of the building, which refers mainly to the terra cotta work. The precision and accuracy of the turning and fitting, as well as the uniformity of color, are things which we naturally expect to find. But in the carving of the enrichments of the large core moldings and finials we again see the spirit of the fourteenth century artists of France, not imitated, but reproduced with even greater effect (due to the use of plastic material used) than in the old stone carvings. But without the craftsman's art it would be valueless in any material. The new process of finely spattering the terra cotta before burning in has been used throughout.

The floors of all the offices contain 120,000 feet of thoroughly kiln-dried polished maple flooring. They are made of two-inch face strips, and if laid end to end would make a strip one hundred and forty miles long. They were furnished by the Rittenhouse & Embree Company, who claim to have the second largest plant in the West for the manufacture of hardwood flooring. Their dry-kiln capacity is 320,000 feet of lumber per week.

The adaptability of marbles to office buildings has been so universally conceded that, in order to supply the increasing demand, mills are equipped at the present day to furnish large quantities on very short notice. This was particularly illustrated in the finishing of the Fisher building, where forty thousand square feet of marble were supplied in sixty days after the building was ready.

The corridors and halls of the Fisher building are wainscoted with veined Italian marble, seven feet high. This marble is quarried at Carrara, Italy, and its beauty and utility have caused its importation in large quantities.

In preparing this material the slabs sawed from the same block were opened up like the leaves of a book, so that the veinings form repeating patterns that are as varying as the material from which they are made.

The marble used for the first floor of this building is Italian Pavonazzo, a kind very hard to obtain. The treatment here is different from that of the upper floors, the panels being surrounded by metal ribs, which gives to the first floor a solidity seldom found, and binding together the entire decorations with strong constructional lines that carry out the unity of the whole. Upon entering the first floor of this building one is immediately impressed with its completeness.

Pavonazzo marble has been used very sparingly in Chicago office buildings owing to its scarcity and the uncertainty of procuring it in a specified time. The veinings are dark and distinct upon a light creamy ground, which gives it a translucent effect and depth of color rarely found in any material.

This marble work was carried out by The Evans Marble Company.

Mosaics have been the practical pavement of all times. Many ruins have been found where, the buildings themselves having crumbled to dust, the mosaics alone remain.

The employment of mosaics, which have always possessed a certain value as well from their imperishable nature as from their intrinsic merit as works of art, originated probably among those Eastern nations by whom so many of the arts have been transmitted to Europe.

The Romans acquired the knowledge of the process from the Greeks, who had borrowed it from the Asiatics. By all of them it was originally used as pavements.

Although one of the most mechanical of the fine arts, it is entitled to rank as a style of decorating from the fact that it requires the preparation of a carbon or colored design, as in the case of a fresco or an oil picture, and no inconsiderable knowledge of form, color and composition.

The design of the first and second floors of the Fisher building is in Gothic ornamentation, with various symbols and ornaments. The general tone being a yellow, which is susceptible of heavy wearing without loss of color effect, and which easily carries the eye up to the yellow tone of the Pavonazzo marble.

Above the second floor the pavements are simply broad treatment, the entire effect depending upon the tessellation. These floors are composed of $\frac{3}{4}$ -inch cubes with dark Tennessee border and white Italian field, relieved only by two lines of red.

The following may give some idea of the mechanical process employed: Over the entire floor area is laid a bed of cement into which is placed the marble cubes of the required sizes and colors to form the design. Over this area is then passed a heavy roller, which presses the tesserae into the mastic, causing it to ooze up from below and thoroughly bedding them in place. When the cement has hardened, the surface is rubbed down and polished with sandstone.

The mosaic work in this building was designed and furnished by Frank L. Davis.

The ornamental iron, consisting of the elevator inclosures, the stairways, the special cornice and molding work in connection with the first story, and the entrance hallways and vestibules, was executed from special designs in harmony with the general style of the building. Great care and consideration were given to this feature of the interior finish, as will be readily appreciated on examination of the superb tracery and ornate detail composing the ironwork of the first story. The electrolier at the foot of the stairway is a gem of chaste conception and artistic interpretation.

All of this ironwork is treated with the genuine Bower-Barff process, which gives an enameled coating of magnetic oxide, rendering the metal rustless, and at the same time imparting a permanent and lustrous blue-black finish. The general effect is extremely rich and dignified, and harmonizes perfectly in combi-

nation with the Pavonazzo marbles and the glass mosaic ceilings, an ensemble of effects rarely, if ever, attempted before.

The hammered leafwork in connection with the electroliers surmounting the newels, and that also over the elevator inclosures, is deserving of close study, being entirely hand-forged from wrought iron.

This work was executed by the architectural iron, brass and bronze establishment of The Wiuslow Brothers Company.

The following is a brief description of the steam-heating work in the Fisher building, executed by the L. H. Prentice Company, of Chicago:

The steam is generated in three water-tube boilers of the Heine pattern, having an aggregate capacity of 450 horse-power. Live steam from these boilers is collected into the main header, which in turn distributes the steam for power and heating purposes. While the system of elevator pumps is running, the exhaust steam coming from their exhaust pipes is sufficient to do the heating work in the building. The exhaust steam is first conveyed into a device called an expansion tank, where the separation of grease and other impurities from the exhaust steam takes place. From this point the steam is carried away for several purposes—in winter time to the heating apparatus and the device for heating the supply for the hot-water pipes leading to the different washbowls and other fixtures throughout the building; and in the summer it is conveyed to an Excelsior feed-water heater for heating the water, or to the atmosphere—or to both—as may be desirable. The heating system is supplied by one immense rising pipe which ascends direct from this expansion tank to the attic. In the attic a system of distributing pipes conveys the steam to the several descending lines to which the radiators are connected by a single pipe and valve as the several floors are successively passed, there being not less than thirty-six radiators off of one single riser. In the basement these descending lines are connected in a system of return pipes, conveying the water of condensation back to the combined feed-water heater and receiver, and from the pumps back to the boilers to be regenerated into steam. The pumps used for this purpose, and also for the purpose of elevating water to the house tank in the attic, are of the Laidlaw-Dunn make, and are located in the basement near the boilers.

In addition to the foregoing, there is a separate and distinct system for the removal of air from the pipes and radiators. This is one of the latest improvements in steam-heating apparatus of recent times. In this system, which is known as the "Paul System," originated by the Western Paul Steam System Company for the removal of air, each radiator is supplied with a good automatic air valve, designed to close when the heat expands the metal mechanism within same, and to this air valve is attached a water suction pipe, which pipe joins to a neighboring pipe from the radiators, and these pipes are all joined together in one line terminating in the basement, where the air is exhausted by a clever but simple machine controlled by the engineer. This apparatus is so constructed that the enormous quantity of radiators and pipes in the system can be filled with steam at atmospheric pressure, or even below same, doing away with all hammering or pounding due to the expansion in ordinary apparatus, and proving a great source of economy by the removal of back pressure on engines and pumps from which the exhaust steam is utilized.

To give the reader in general an idea of the magnitude of the steam plant installed in this building, we would mention that all the pipes connecting radiators together and then connecting with the boilers would measure $3\frac{1}{2}$ miles. If the loops of the radiators were laid on the ground with their ends butting against each other, they would measure about three miles in length.

The system of heat regulation of the Johnson Temperature Controlling Company has been introduced with success in connection with all the radiators.

No branch of construction in the erection of modern fireproof buildings shows, over the methods in vogue a few years since, greater improvements than that which provides for the installation of systems of wires for conducting electric light and power, and each new building affords the opportunity of exploiting some new and progressive ideas.

The most thoroughly distinctive feature of the wiring in this building is that a sufficient space for electric mains, risers, feeders and cut-out centers is afforded upon the various floors. This building is provided with a separate accessive shaft extending from the bottom to the top of building, with commodious cabinets on each floor adjoining this shaft for meters and cut-outs.

From these cabinets on the various floors iron-armored conduits of an approved type extend through the tile partitions, or are imbedded in concrete floors, to outlets for the connection of fixtures or switches in the different offices.

The general method of construction throughout the building is as follows: Heavy main risers extend in the main shaft from the basement to the top floor of the building, being divided into three sections by two heavy centers of drawn copper feeder, mounted upon slate bases and provided with fuse blocks containing fusible strips, at which point the riser may be cut into three parts in case of trouble. These cut-outs or centers are located upon the fifth and twelfth floors. From each of these centers heavy feeders extend to the basement in main shaft, and from the foot of this shaft directly to the east curb wall of the building, where they connect with the underground service of the Chicago Edison Company through large service switches of knife pattern, which combine the functions of service cut-outs and firemen's switches, and make it possible to cut off the electric current from the entire building instantaneously. This practically covers the heavy conductors in the building, which are of such size and so arranged that either a two or three wire system of distributing current may be used.

Returning to the distributing system, at each floor short sub-mains extend from the main riser in the shaft to tap line cut-outs in the adjoining cut-out and meter cabinet. Here a separate cut-out and meter are placed for each office or suite of offices, it being possible with very small expenditure of labor to place a single meter so as to indicate the entire consumption for any combination of offices which the pleasure of the tenants may dictate. From these cut-outs the tap line wires pass through the conduit directly to the fixture outlet. They are of duplex wire; that is, two conductors insulated from each other but contained within the same outer insulation and can be readily withdrawn and replaced with new conductors, in case of any trouble, without any cutting of plastering.

All tap line wire was manufactured by the Grimshaw Company and mains by the General Electric Company. All switches used throughout the building are of the flush pattern, those in the hallways and public places being provided with detachable keys. The system is complete from the underground service to the fixture outlets, fixtures having been provided by another contractor. The building, like most of the large office buildings in Chicago, will be supplied with current from mains of the Chicago Edison Company.

One of the many ornamentations worthy of special notice is the new pattern of door knobs and door trimmings, executed in cast iron, finished by the Bower-Barff process, with the monogram of the owner, and worked out and furnished by P. & F. Corbin, who furnished the hardware for the building.

It required many other adjuncts to make this building complete, and nothing was omitted.

Glass mosaic ceilings and side walls are the finish above the marble wainscoting of the first story corridors.

The whole of the tinting and house painting was done by Alfred Barker, of West Madison street, Chicago.

The inside finish above referred is all done in mahogany. The door panels are covered with quartering veneers which are matched so as to form patterns; the whole is stained and polished to resemble San Domingo mahogany.

The large toilet room and barber shop on the eighth floor is an interesting place to visit.

Each floor has a slop sink in a closet.

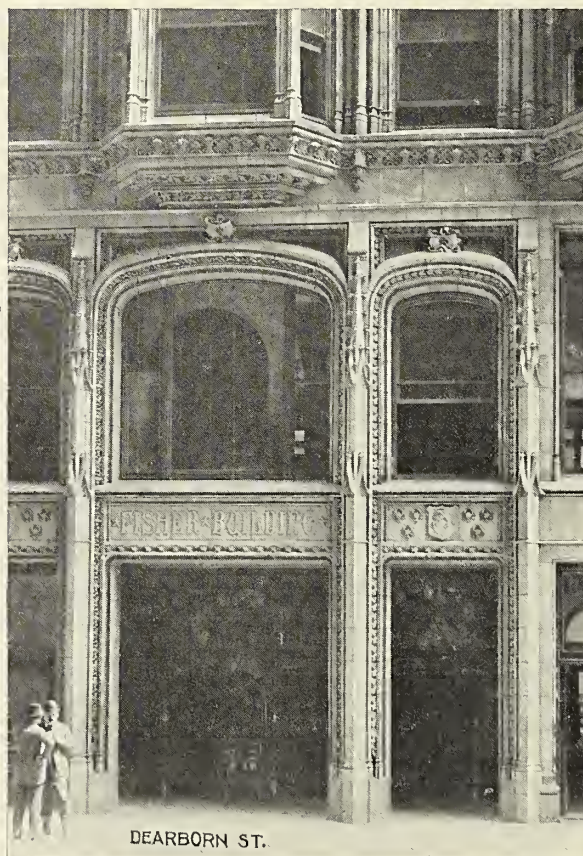
The ventilation, where necessary, is forced by electric rotary fans.

There are six latest improved passenger elevators, the doors of which are supplied with a system of opening and closing.

The mechanism is operated by compressed air. All the doors are double, opening in the center. The operator opens the doors by touching a button in the floor of the cab, and he is obliged to release it, thereby closing them as the cab moves away.



PLYMOUTH PLACE ENTRANCE.



DEARBORN STREET ENTRANCE.



THE FISHER BUILDING, CHICAGO.

D. H. BURNHAM & Co., ARCHITECTS.

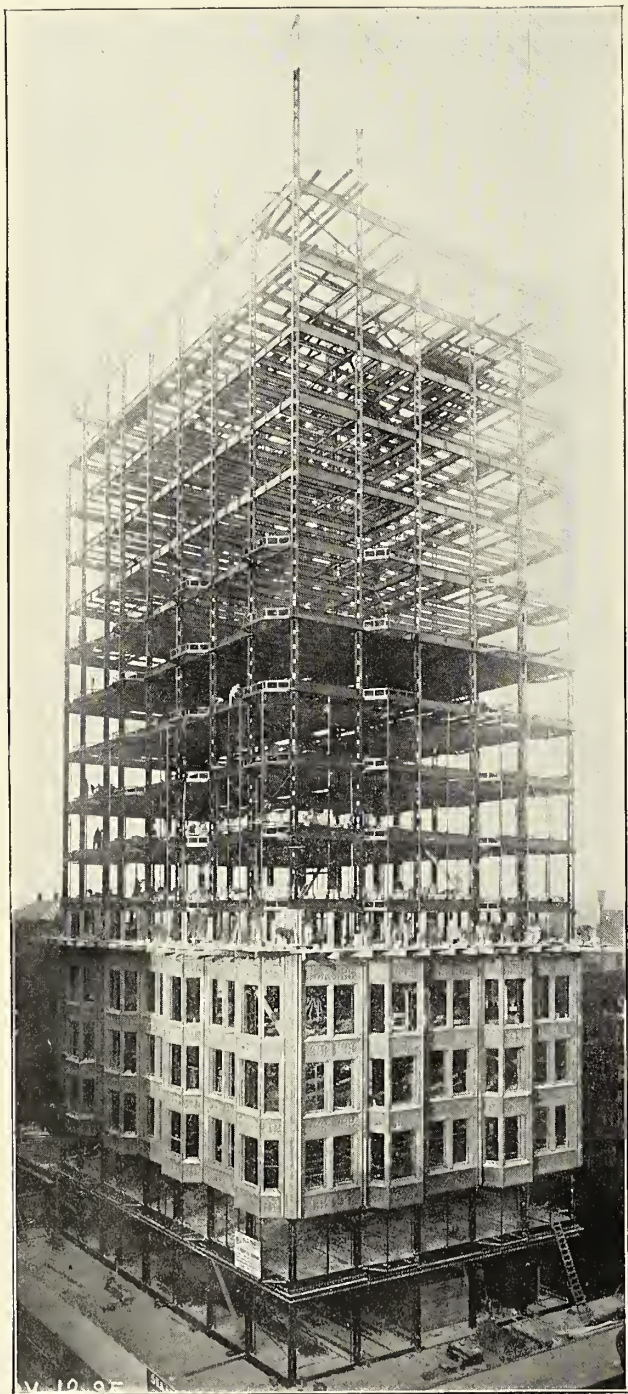
THE FINISHED BUILDING—TAKEN APRIL, 29, 1896.



THE FIRST FLOOR ON—PHOTOGRAPH TAKEN OCT. 12, 1895.



THE UNFINISHED FIRST STORY CORRIDOR—TAKEN MARCH 13, 1896.



THE HIGHEST POINT REACHED—PHOTOGRAPH TAKEN NOV. 12, 1895.



VIEW OF THE BUILDING TAKEN DEC. 12, 1895.



LOOKING DOWN CORRIDOR FROM VAN BUREN STREET ENTRANCE.



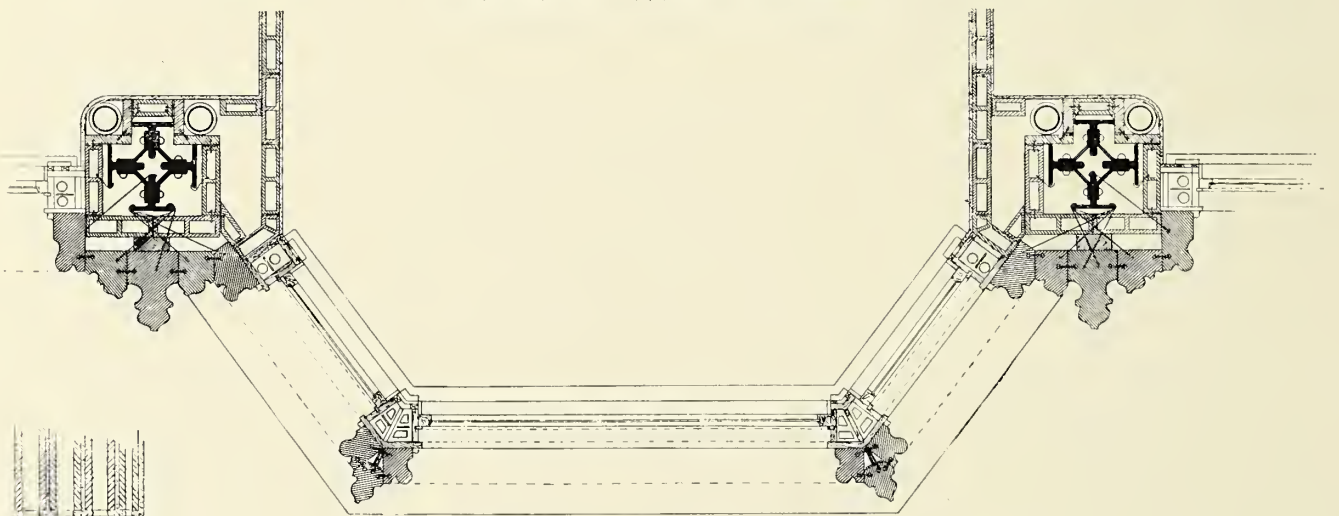
THE FINISHED FIRST STORY CORRIDOR—TAKEN MAY 1, 1896.



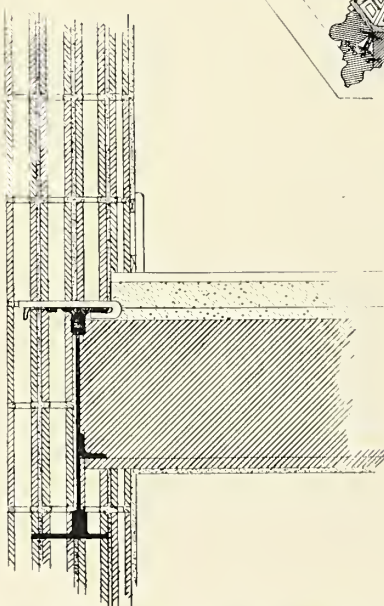
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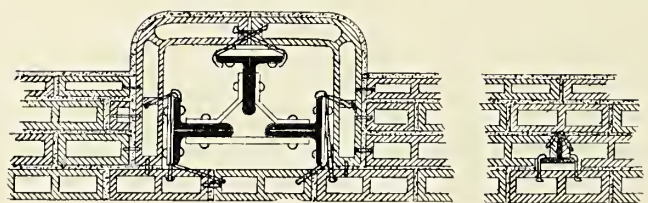
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Typical Plan of Bay Window

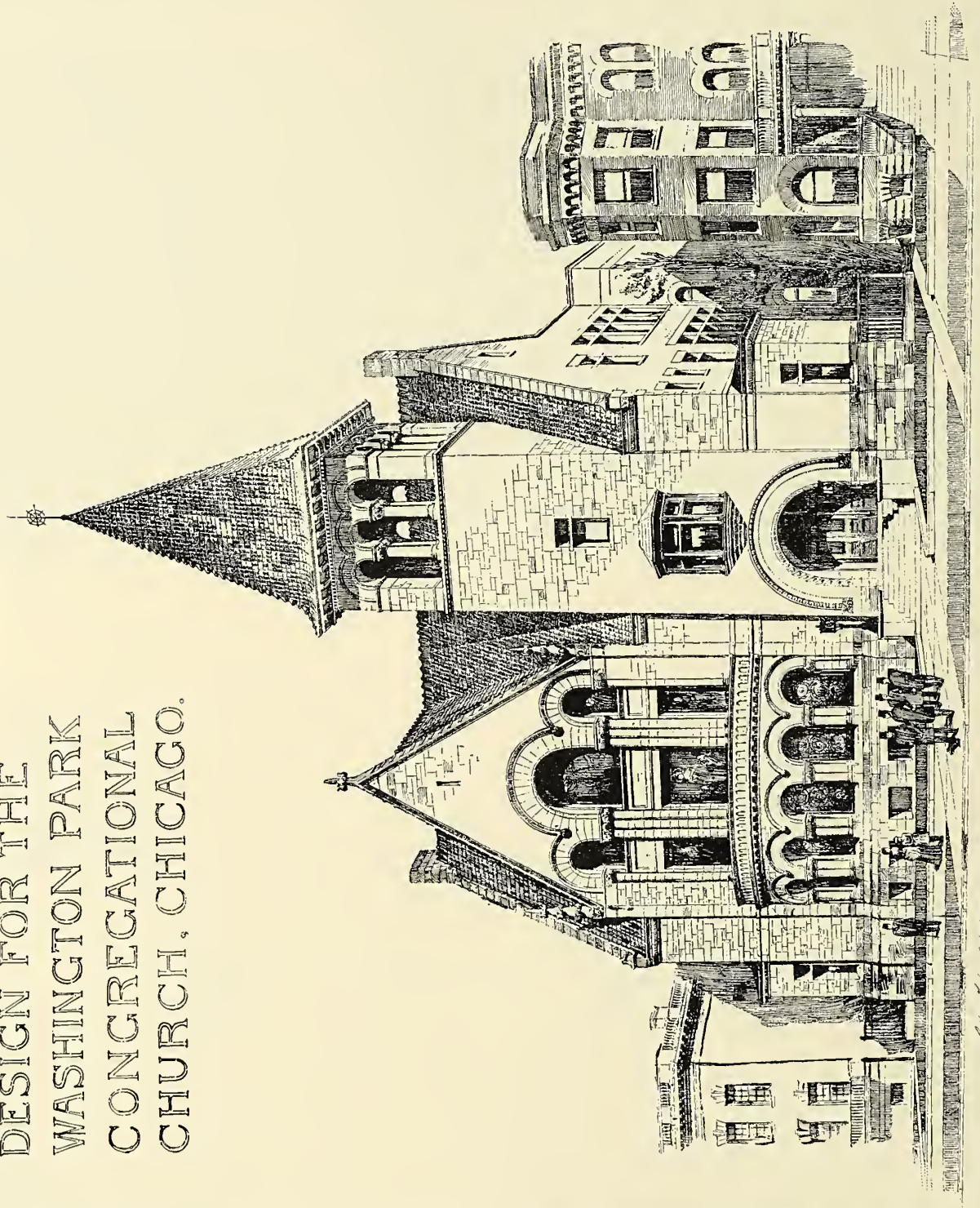


Typical Section of North Wall

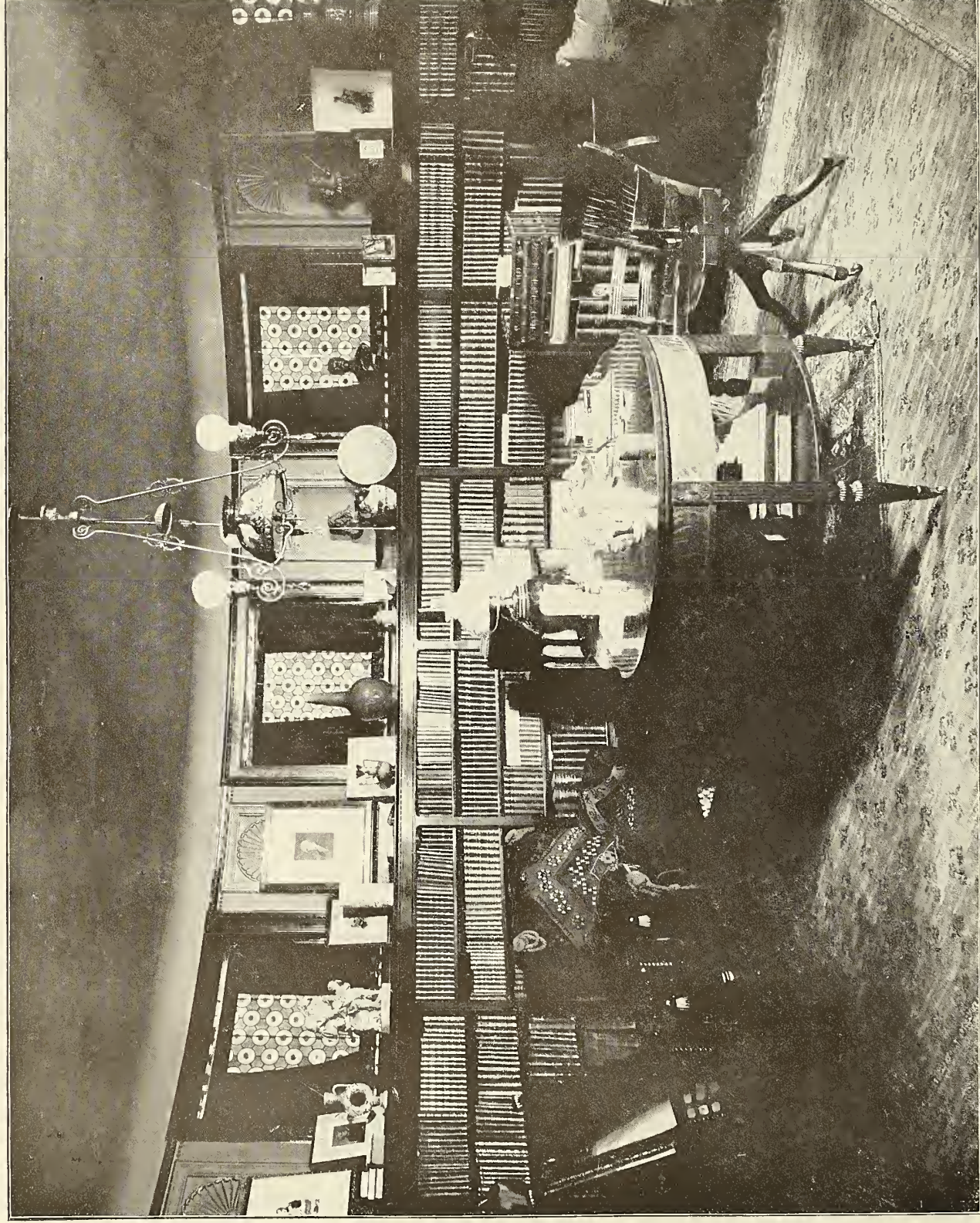


Typical Plan of North Wall

DESIGN FOR THE
WASHINGTON PARK
CONGREGATIONAL
CHURCH, CHICAGO.



Arthur H. Foster, Architect.
Chicago, N.Y. 1888.



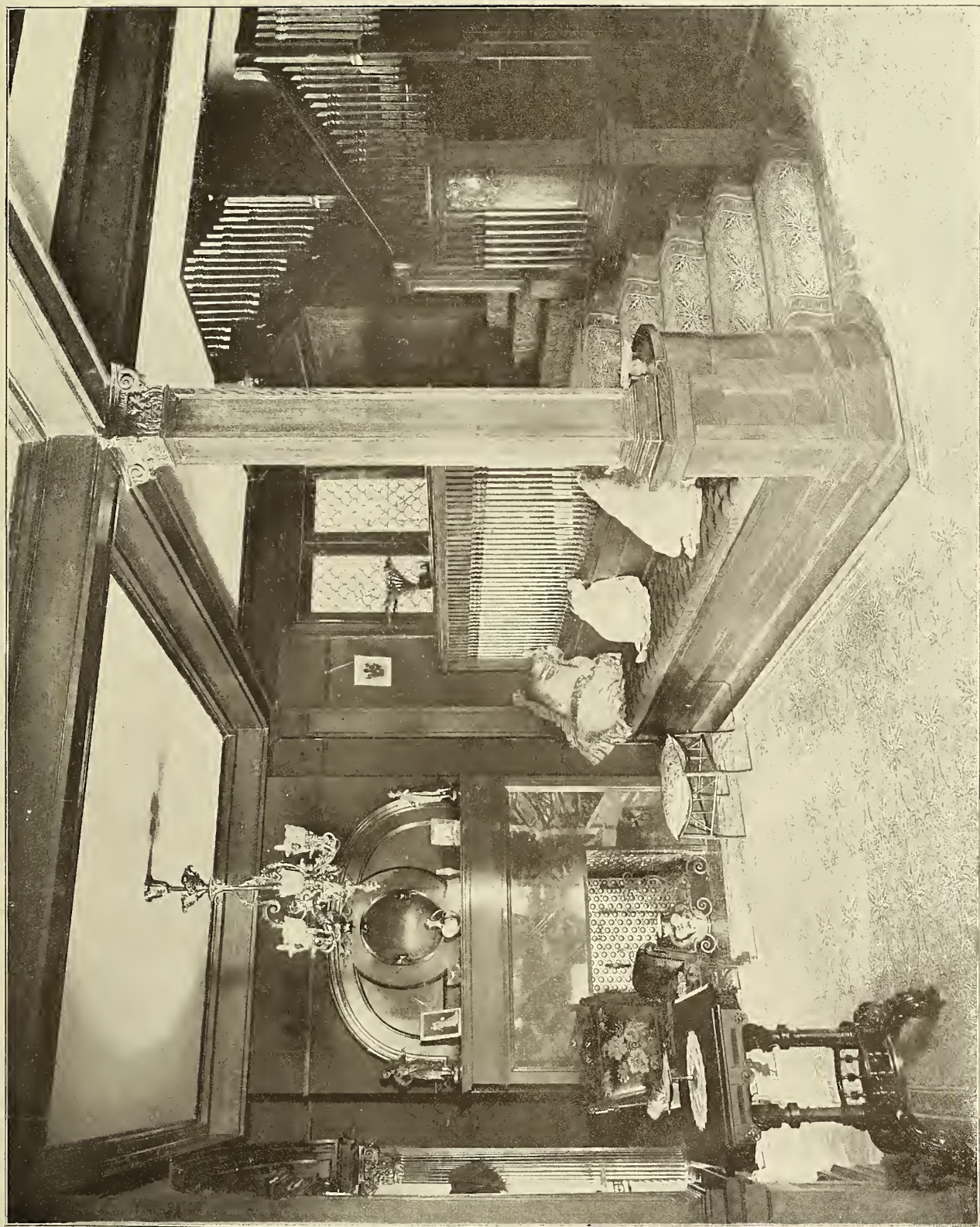
A LIBRARY INTERIOR, CHICAGO.



Negative by H. E. Torgensen, Chicago.

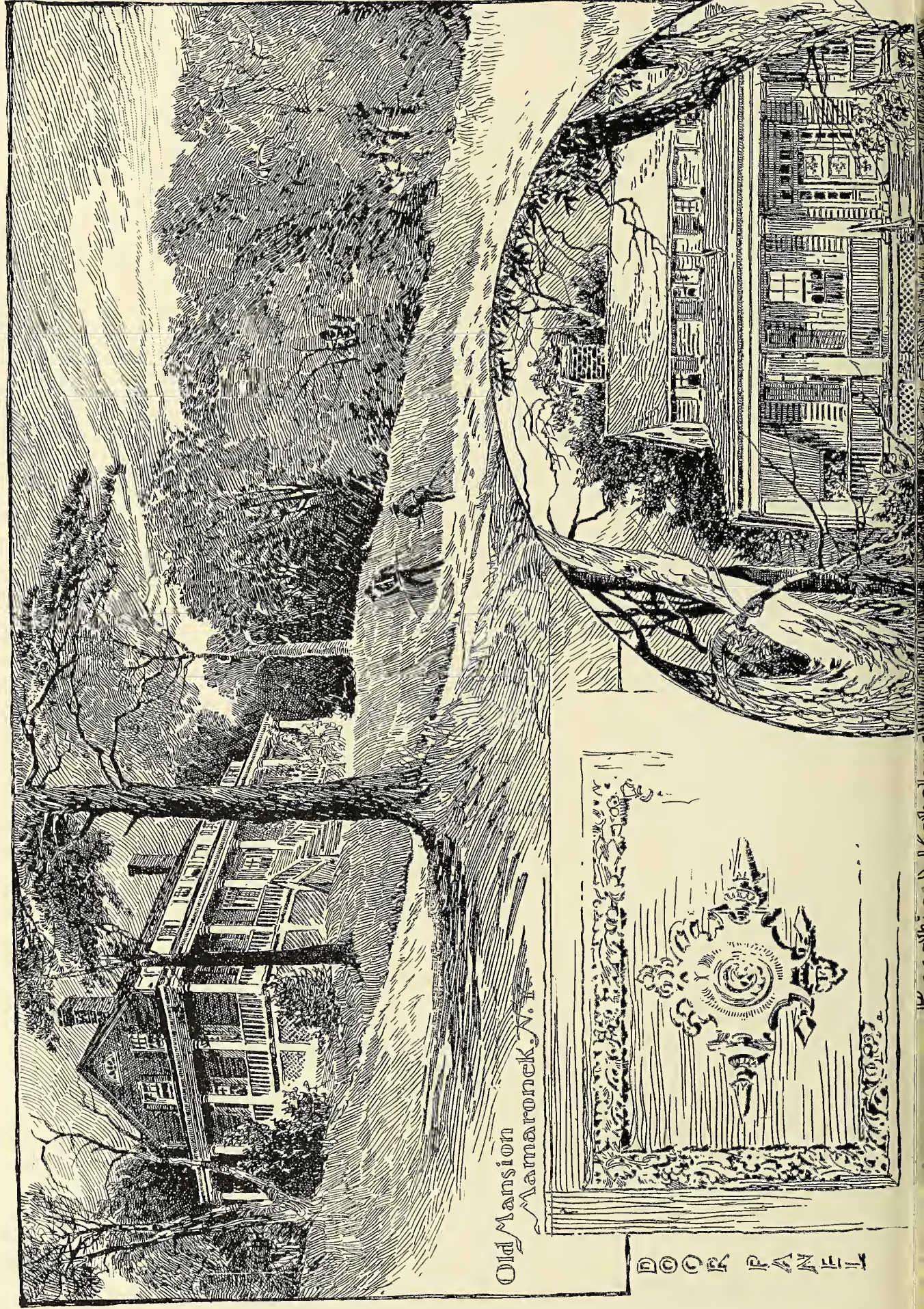
RESIDENCE, EVANSTON, ILLINOIS.

INLAND ARCHITECT PRESS.



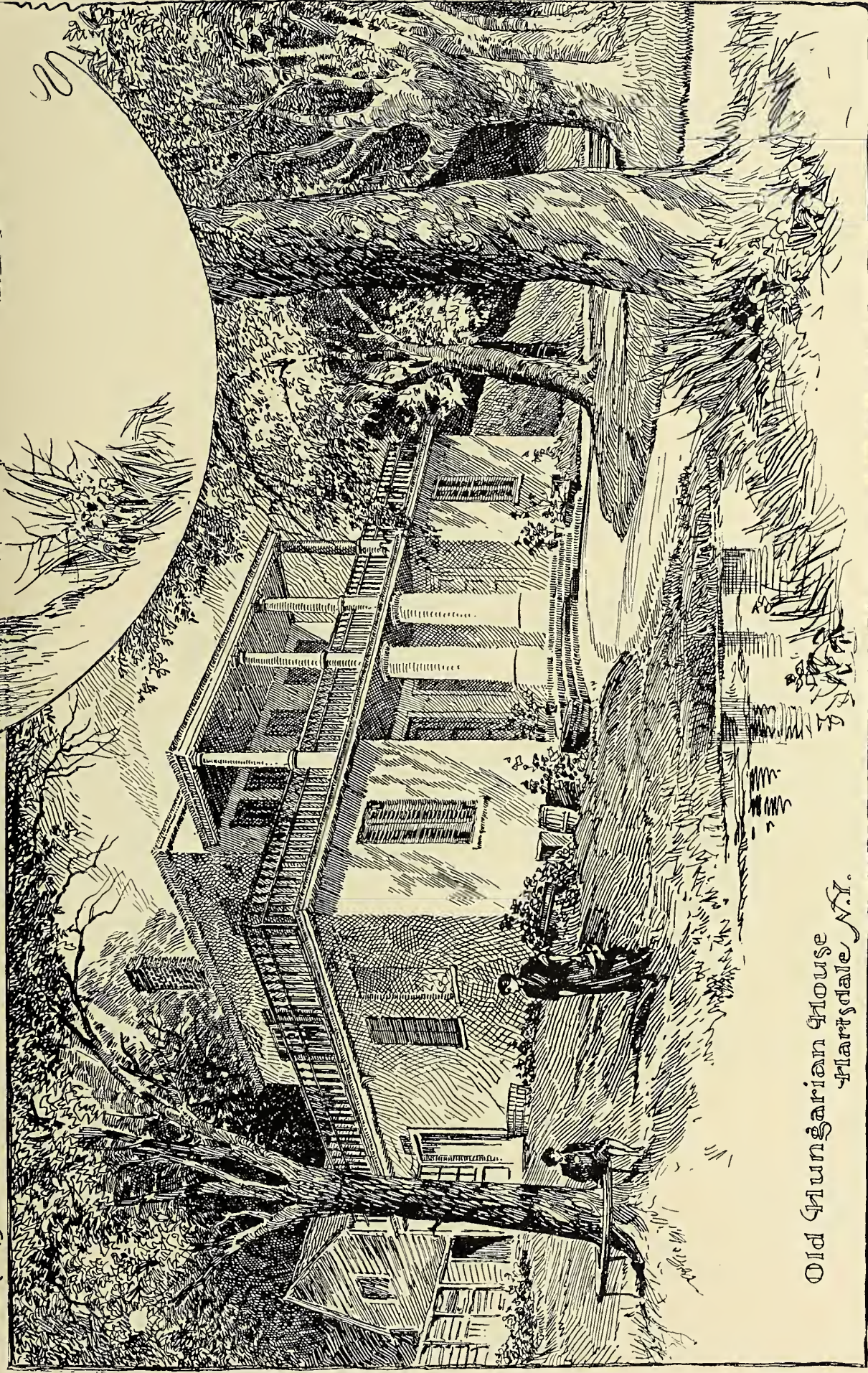
VIEW IN HALL, RESIDENCE OF CHARLES V. L. PETERS, EDGEWATER.

GEO. W. MAHER, ARCHITECT, CHICAGO.



by
E. Eldon Deane.

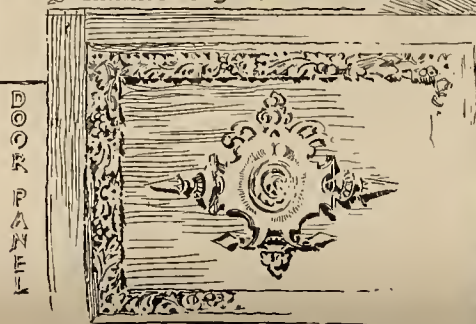
July, 1895.



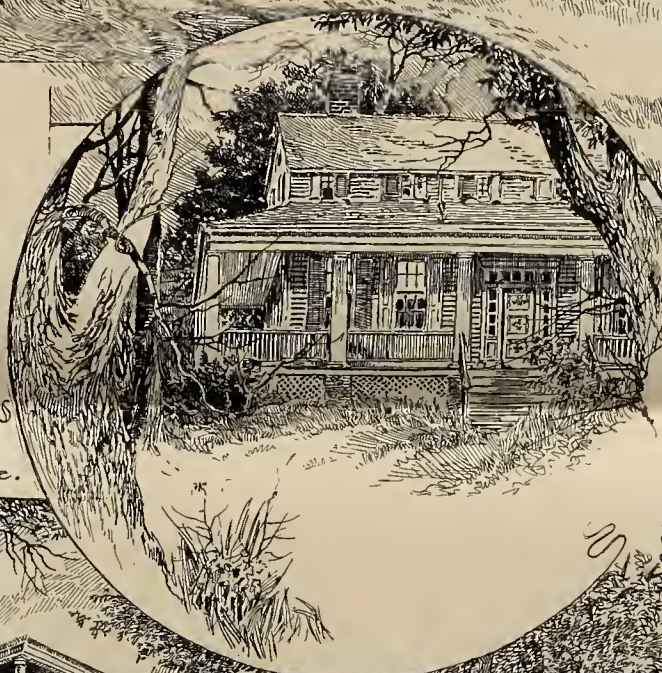
Old Hungarian House
Hart'sdale, N.Y.



Old Mansion
Mamaroneck, N. Y.

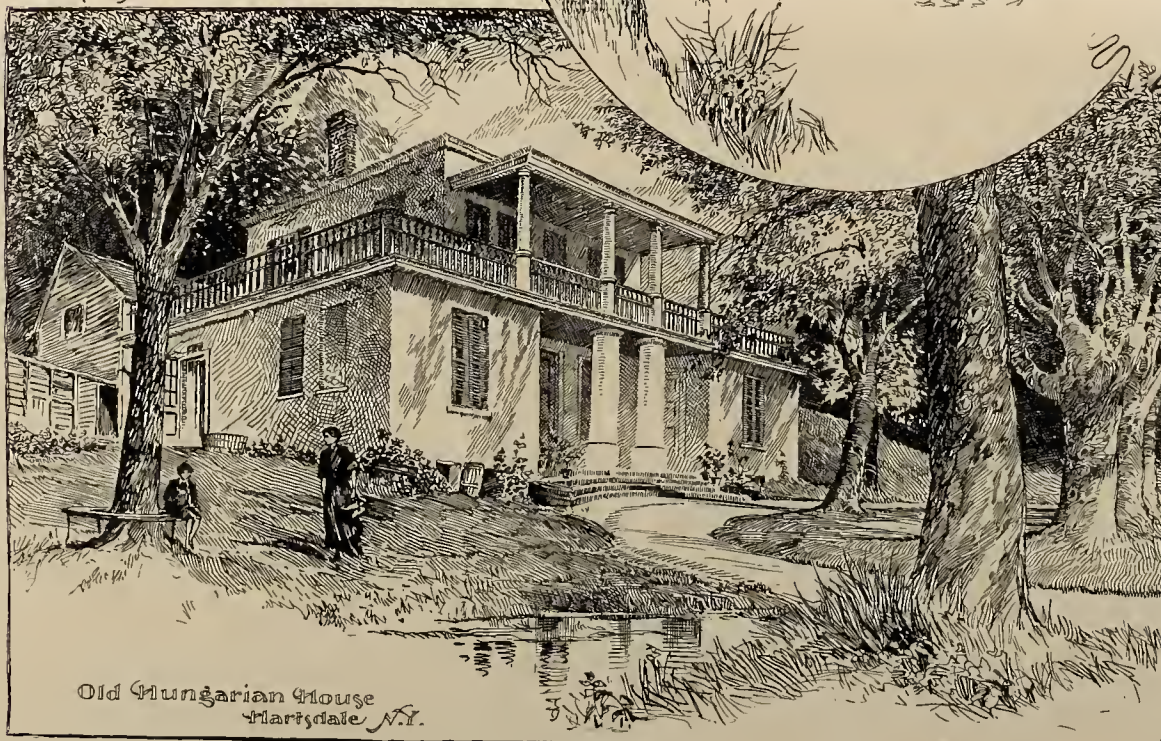


DOOR PANEL

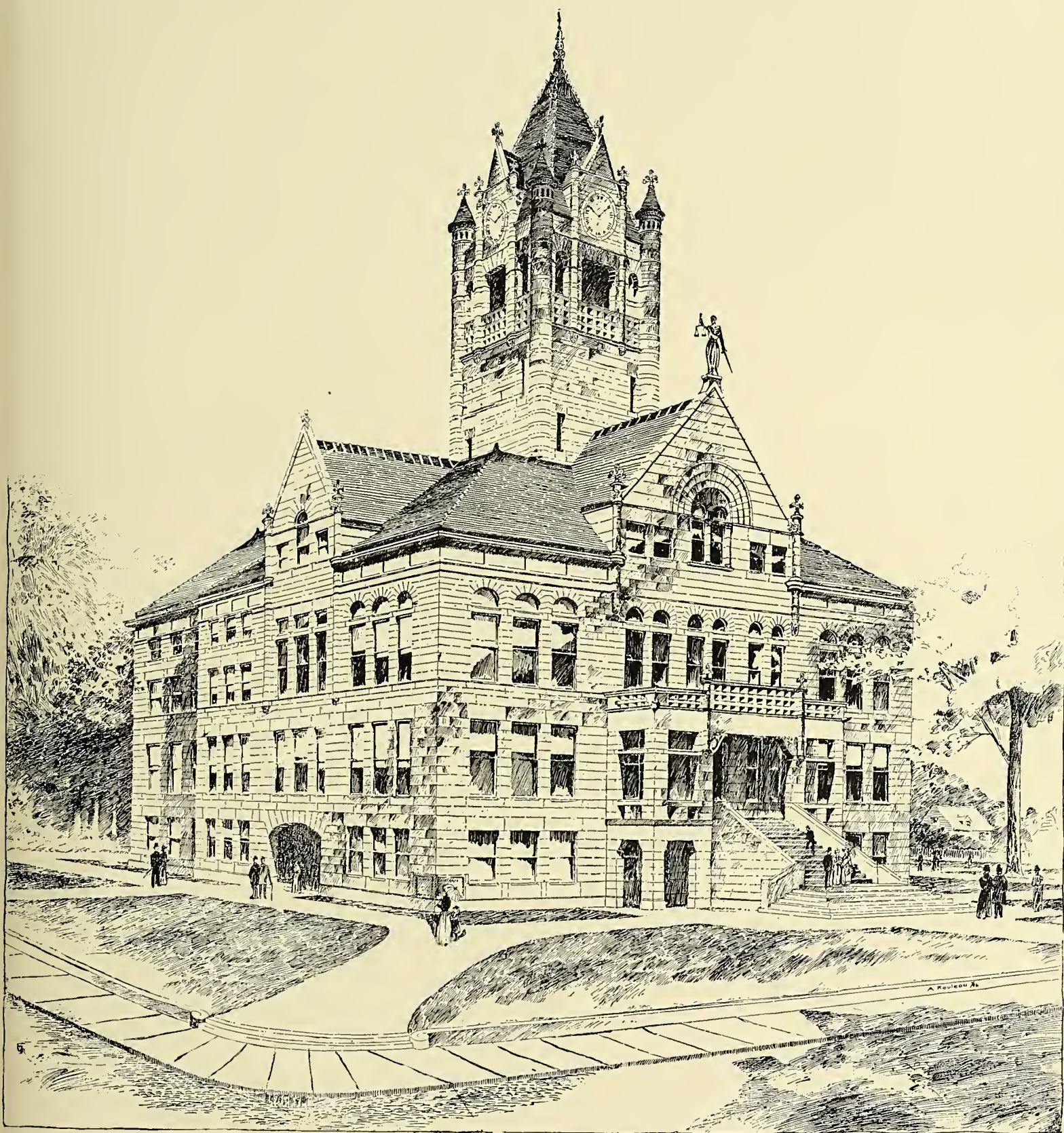


Rustic Sketches
by
E. Eldon Deane.

July, 1895.

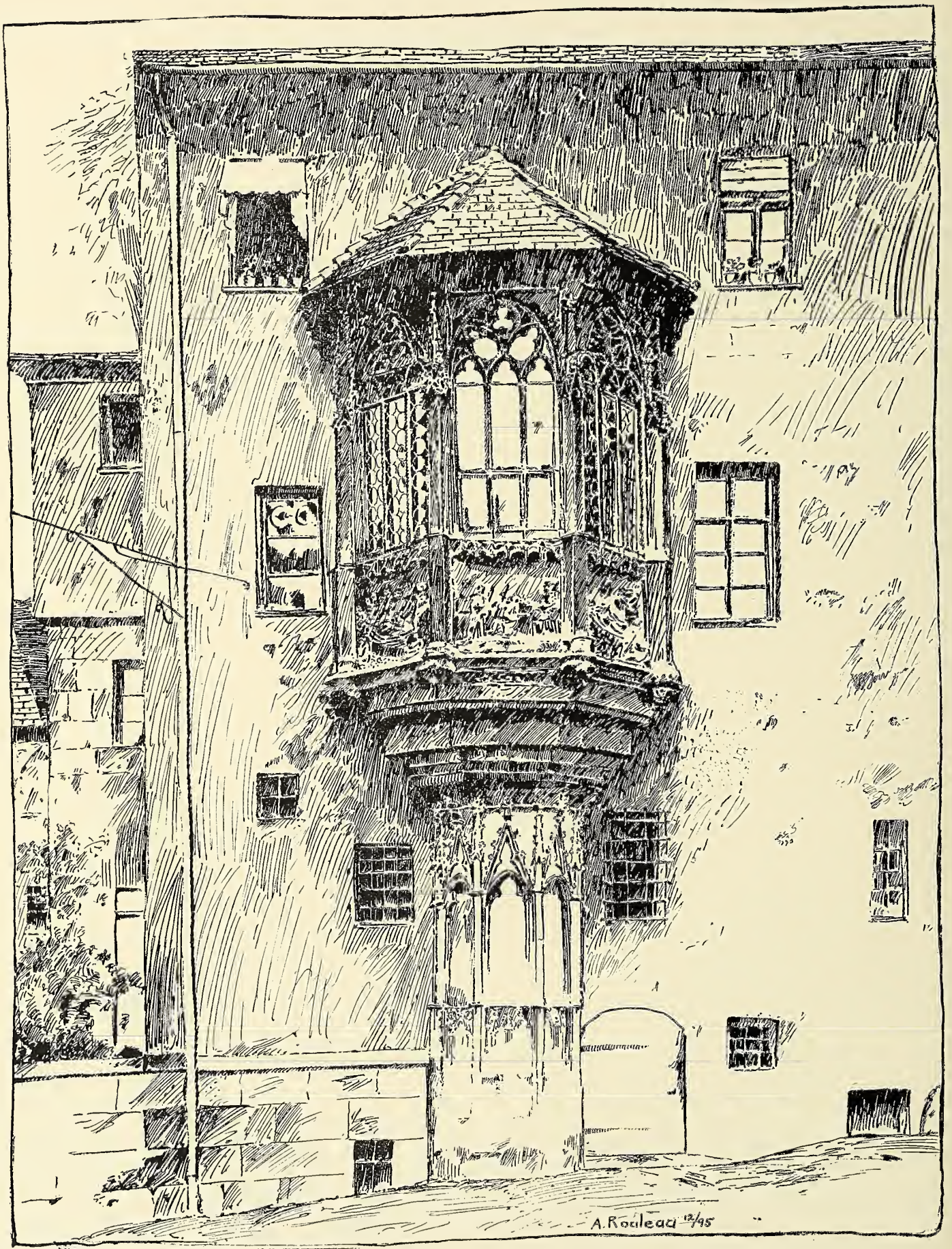


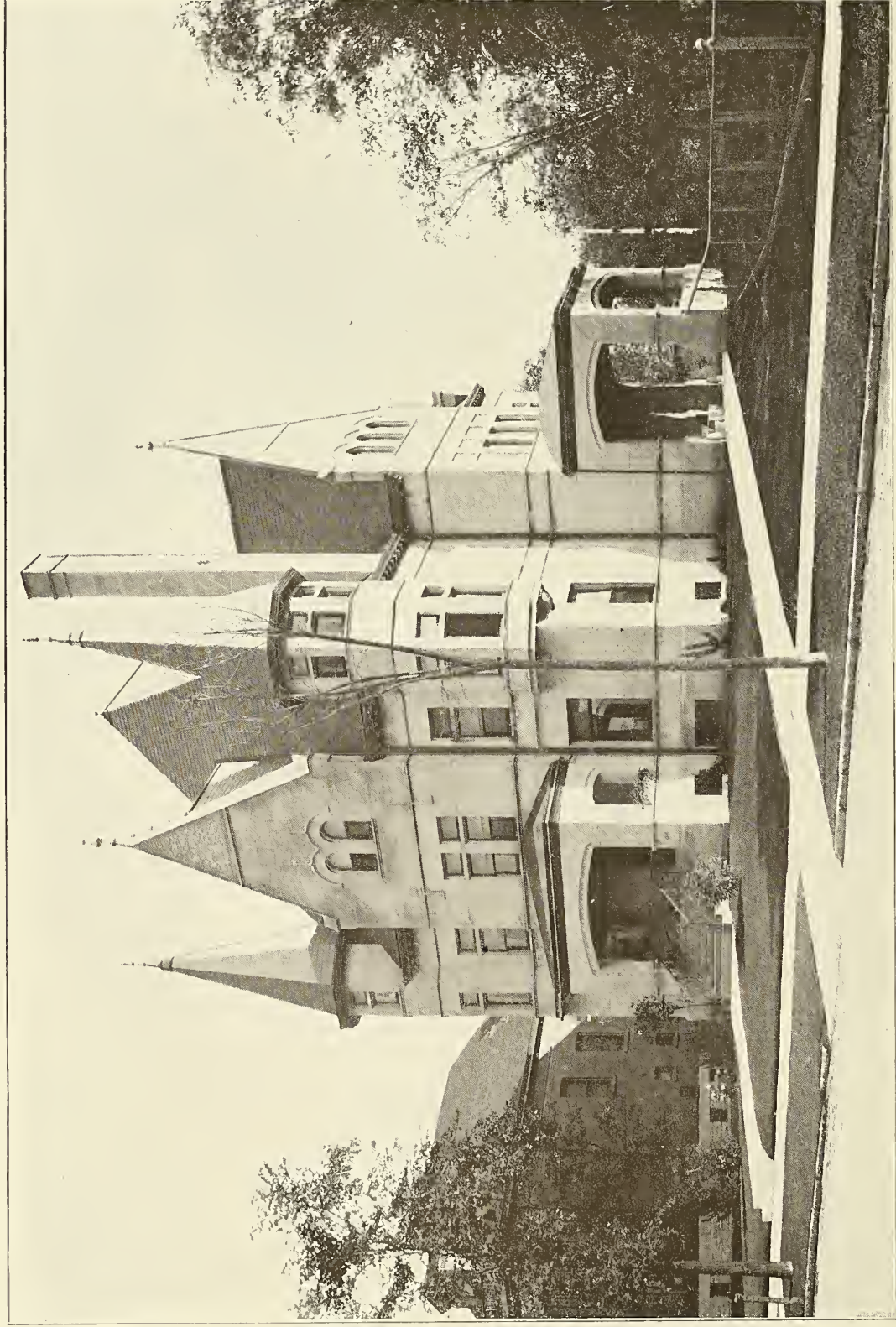
Old Hungarian House
Hartford, N. Y.



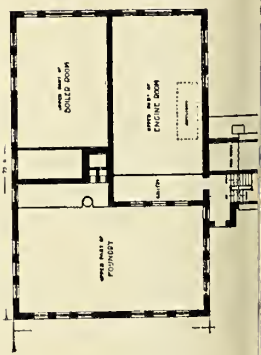
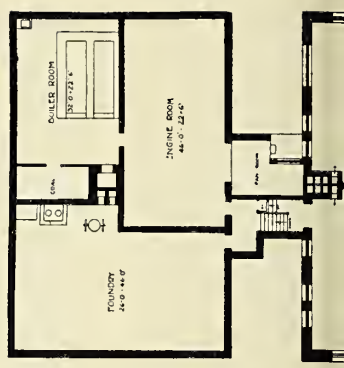
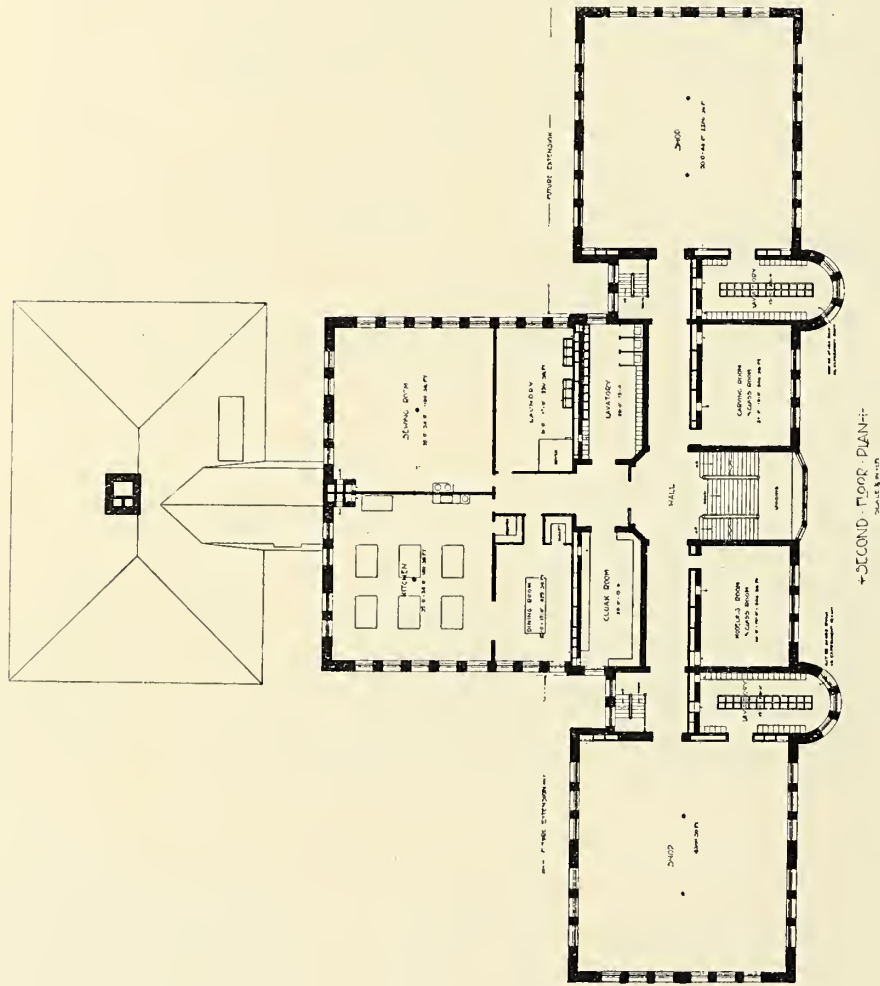
COURTHOUSE, MONMOUTH, WARREN COUNTY, ILLINOIS.

OLIVER W. MARBLE, ARCHITECT, CHICAGO.



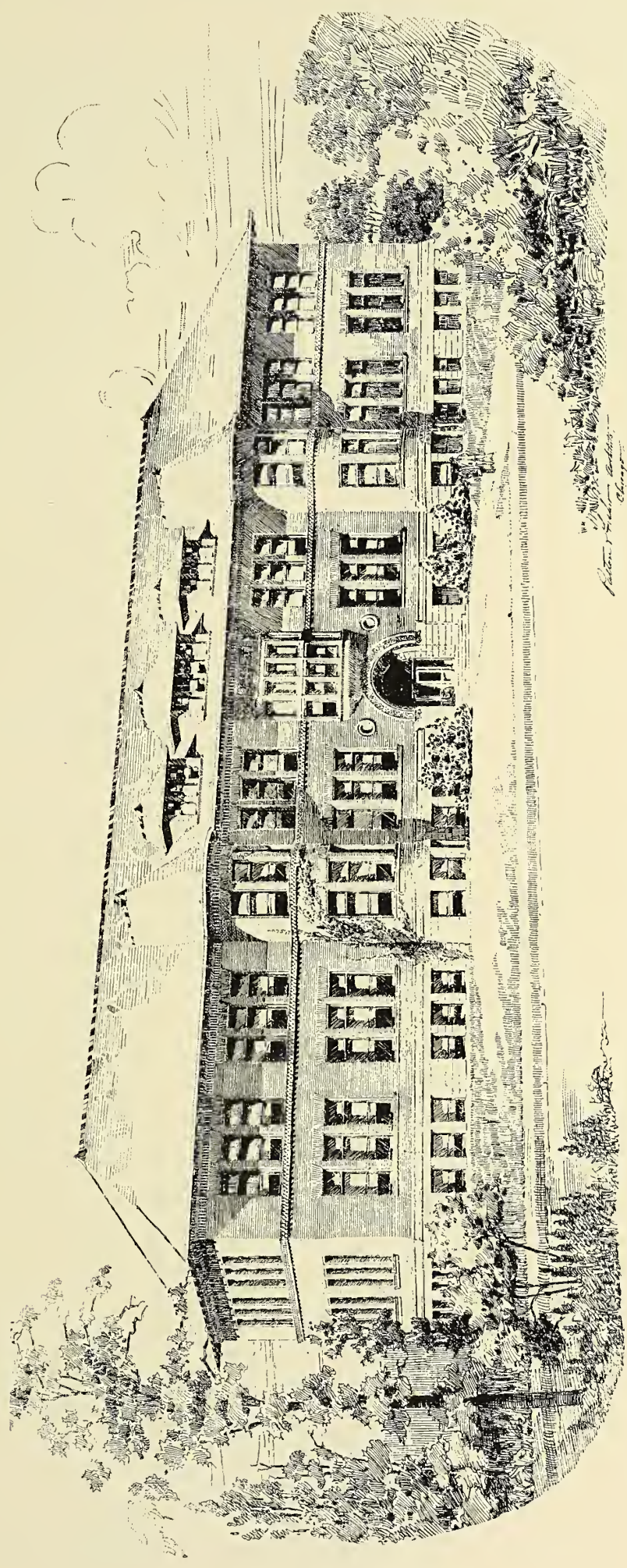
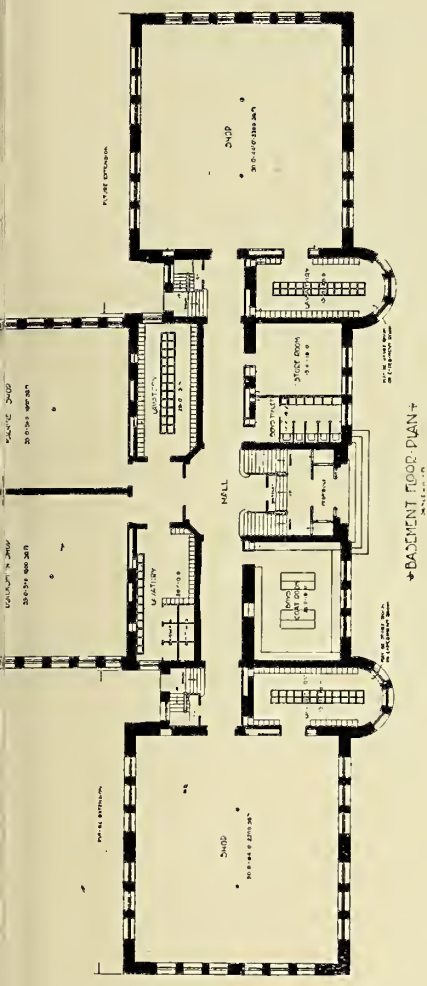
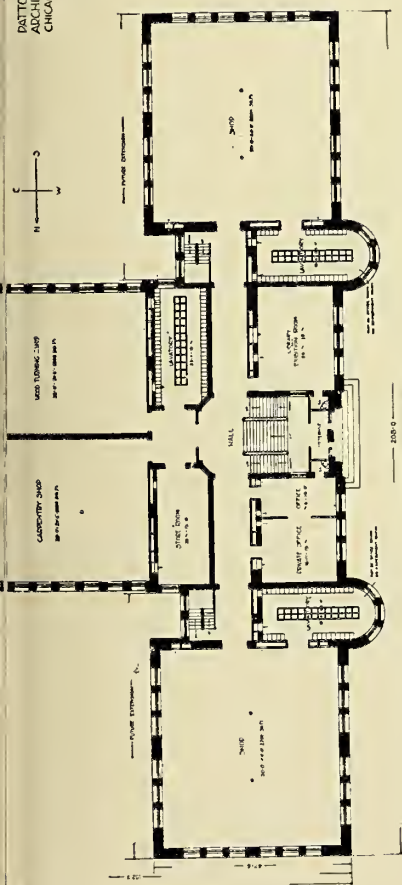


A CHICAGO RESIDENCE.

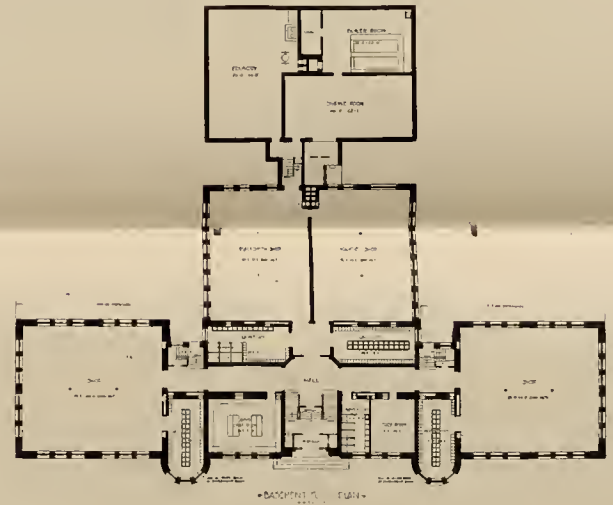
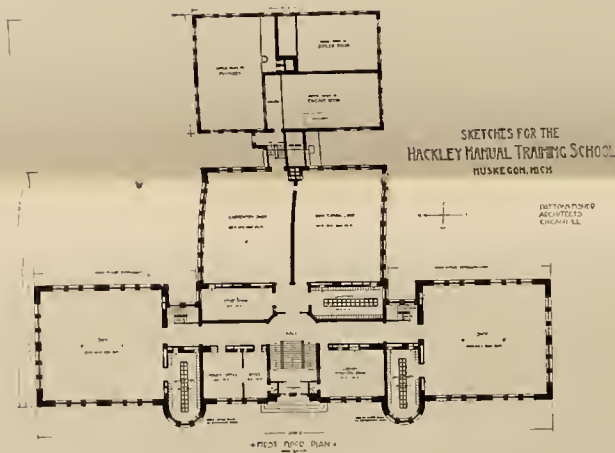
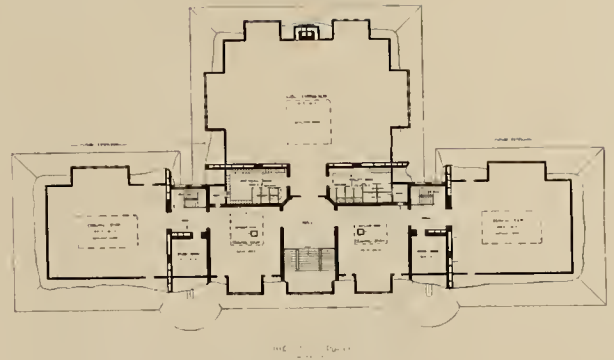
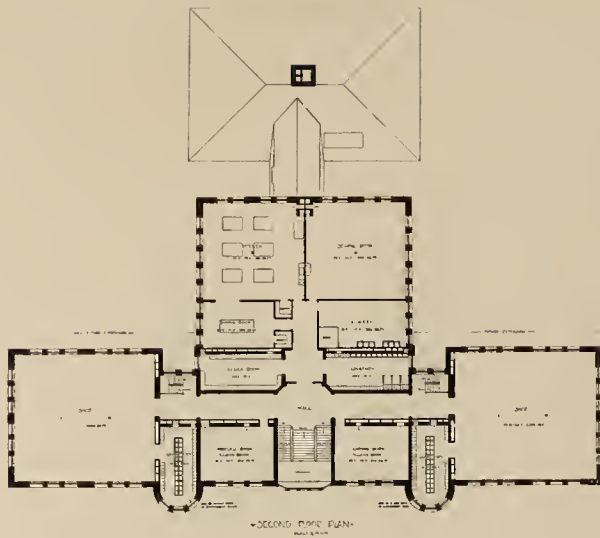


SKETCHES FOR THE
HACKLEY MANUAL TRAINING SCHOOL

PATTON FISHER
ARCHITECTS
CHICAGO, ILL.

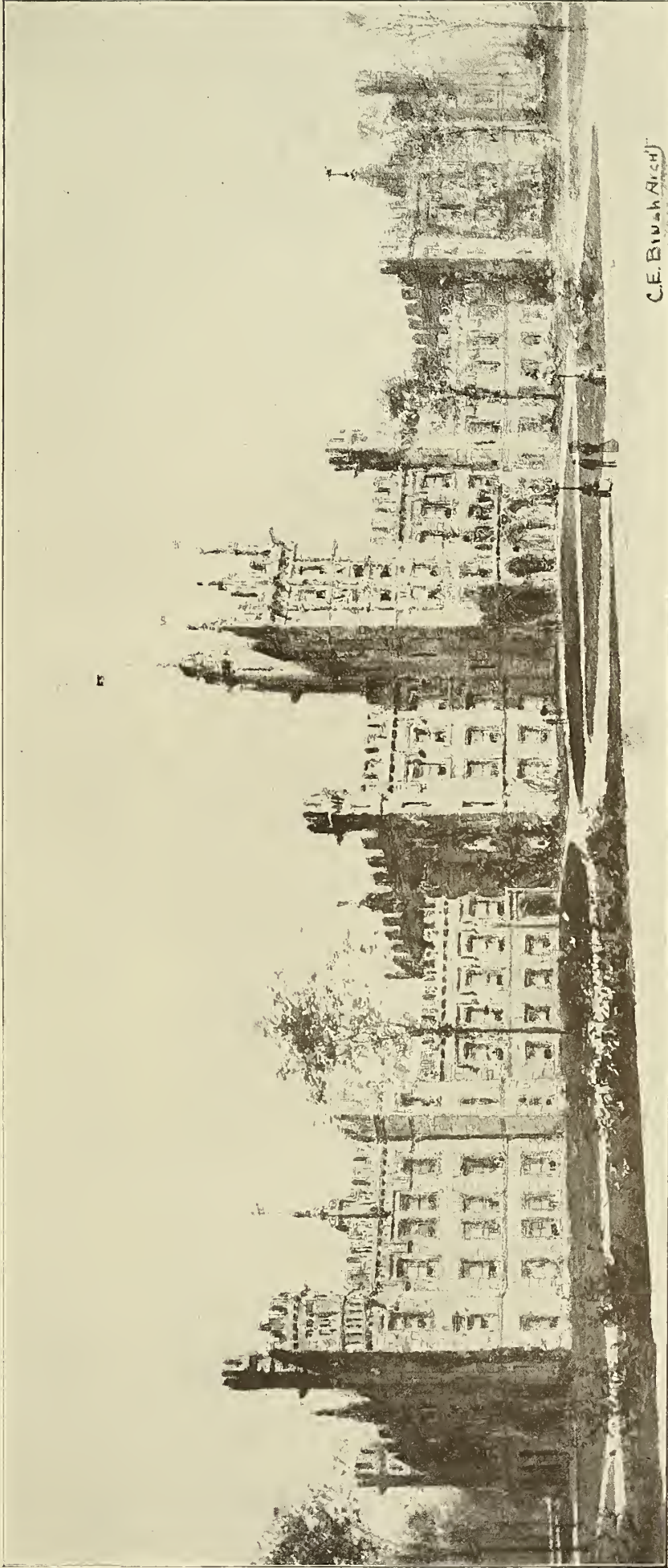


HACKLEY MANUAL TRAINING SCHOOL, MUSKEGON, MICHIGAN.
PATTON & FISHER, ARCHITECTS, CHICAGO.



HACKLEY MANUAL TRAINING SCHOOL, MUSKEGON, MICHIGAN.

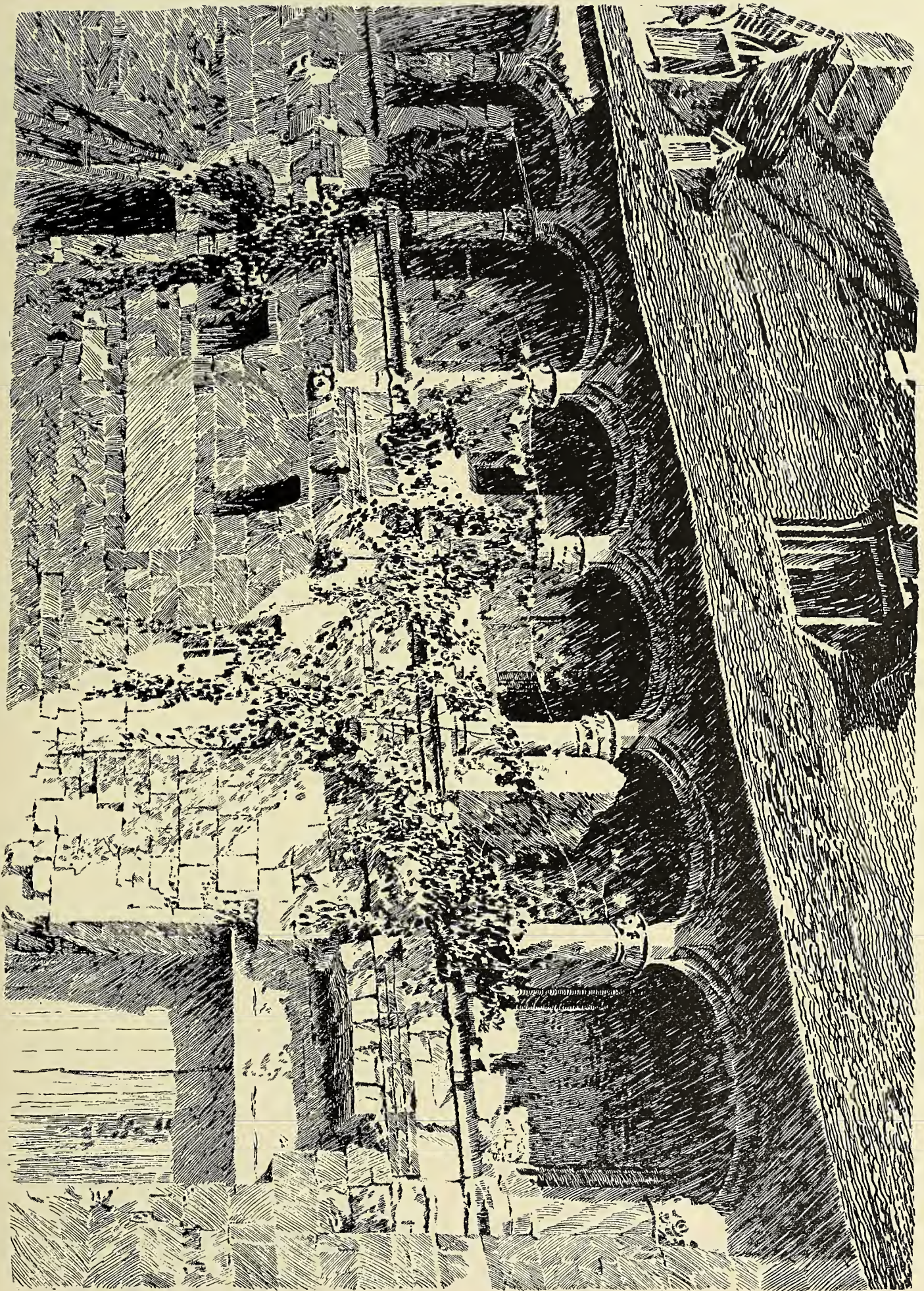
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C. E. BRUSH ARCHT.

NORTHERN ILLINOIS STATE NORMAL SCHOOL, DEKALB, ILLINOIS.

C. E. BRUSH, ARCHITECT, CHICAGO.



THE INLAND ARCHITECT AND NEWS RECORD

Vol. XXVII.

JUNE, 1896.

No. 5.



A Monthly Journal Devoted to

ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
409-410 MANHATTAN BUILDING, CHICAGO, ILL.

L. MULLER, Jr., Manager. ROBERT CRAIK McLEAN, Editor.

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), \$1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

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A Model
"Fake"
Capitol
Competition.

Apropos to the seeming epidemic of "invitations to architects" just now, and which seem to be accepted with alacrity, is that recently issued by the State of Mississippi for a new capitol building. The general scheme is so attractive that the express business in the South should be greatly stimulated. On July 15 the committee, consisting of the Governor, Attorney-General and Secretary of State, will "meet for the purpose of collating all plans and information obtained by them," and at that time will be pleased to confer with such architects as may prefer to visit the capital city. As the building is to cost from \$550,000 to \$1,000,000, and a sum not to exceed \$1,000 is to be paid for the plans, or in case the architect is employed to superintend, no compensation shall be paid for plans and specifications, and in no case shall there be any compensation for plans not used, this should be an exceptional opportunity to prove the cheapness of an architect's service. The assurance that the committee will be assisted by a competent and disinterested architect to collate all plans and information that would be useful to the legislature in letting the contract should lend additional attraction to this most unique "invitation." We were wont in times past to point out to these misguided committees that respectable architects would not compete under such conditions, but recent events in the competition line have so far modified this opinion that we would not be surprised to see a long list of competitors for the state capitol building for Mississippi.

A Public
Estimate
of Architects'
Services.

The comments of the Columbus *Dispatch* upon the refusal of certain Cincinnati architects to enter a competition for a state house is refreshing as its knowledge of an architect's services is vague. Of course, if it were a legal, instead of an architectural problem, this verdant newspaper would talk differently. Even its narrow scope of vision would see something ridiculous in the state asking written opinions from ten or more celebrated jurists and agreeing to accept and pay for the one it liked best. True, the jurist's opinion would only involve the employment of a typewriter lady for a few hours, while that of the architect calls for the work of skilled draftsmen for days (supposing this to be the basis of the *Dispatch's* argument when it speaks of measuring the state house with a tape line, adding a few columns of figures and calculating the utmost expenditure), and nothing to be allowed for the legal or architectural ability involved. After all, the profession is largely responsible for the estimate in which it is held regarding competitive opinions. While the legal profession has taught the public that no lawyer will open his mouth without a fee any more than you can get a piece of gum from the nickel-in-the-slot machine without shoving in the coin, the architectural profession has shown itself only too willing to take chances in the general lottery. The stand maintained by the Cincinnati architects is most commendable, and those in Columbus and elsewhere, by taking the same position, should teach the state government that architectural services mean something more than measuring the ground with a tape line.

ARCHITECTURAL HISTORY AS A STUDY.*

BY P. B. WIGHT.

THE Standing Committee on Education of the American Institute of Architects is one of its oldest and most cherished traditions. Its reports from year to year reflect more accurately than anything else on record the condition and prospects of architectural education in America. This committee has always embraced the ablest architectural thinkers in the country, and its reports have been issued with an authority that could not be questioned. They have been largely descriptive and critical of what was being done in the several schools, rather than didactic. But in 1894, the report so ably prepared by Chairman Van Brunt struck a note of interest to the convention such as had never before been awakened at the meetings of the Institute. The discussion that followed was of equal interest, as was shown by the resolution of the convention to the effect that "the committee be directed to communicate with the several schools in existence in this country, in regard to the ideas presented by the chairman in this excellent paper."

What elicited this great interest was, in brief, the statement that the study of the history of architecture had been neglected in the schools, and should form an important element in their curriculum. It was the sense of the active profession reflected back upon those charged with preparing the minds of its juniors for the realities of architectural life. In a measure it was an echo of the great work of the late Viollet-le-Duc, when he attempted to infuse a new life into the School of Fine Arts of France, but with disastrous results.

The resolution of the convention not only yielded its fruits in the report of the committee at the 1895 meeting and the accompanying papers that it had elicited from the directors of the several schools, and others who were interested, which are now before us, but in Professor Hamlin's admirable history which has just appeared. This is the first book on the history of architecture that has ever treated the subject in such form that it is practicable for use as a text-book in the schools. Its preparation was, doubtless, incited in no small degree by the discussion elicited in 1894. A careful perusal satisfies us that it "fills the bill," and that it is a fair and unprejudiced statement of the main facts of architectural history upon which every student may rely as a foundation for more extended research in future years. The concise "preface" with which Mr. Hamlin introduces it to his readers explains its nature and objects so clearly that the reviewer is content to let him describe it in his own words by quoting them rather than attempting to make a résumé.

"The aim of this work has been to sketch the various periods and styles of architecture with the broadest possible strokes, and to mention, with such brief characterization as deemed permissible or necessary, the most important works of each period or style. Extreme condensation in presenting the leading facts of architectural history has been necessary, and much that would rightly claim place in a larger work has been omitted here. The danger was felt to be rather in the direction of too much detail than of too little. While the book is intended primarily to meet the special requirements of the college student, those of the general reader have not been lost sight of. The majority of the technical terms used are defined or explained in the context, and the small remainder in a glossary at the end of the work. Extended criticism and minute description were out of the question, and discussion of controverted points has been in consequence as far as possible avoided."

Each chapter commences with a list of books treating of the subject under consideration as a guide to further study, and is followed by a list of monuments of the time referred to, of which it had been impossible for want of space to make mention in the text. Thus the book becomes a reliable guide to the entire range of architectural history, and any student who has access to a library or a collection of photographs may continue his investigations *ad infinitum*. It is the only concise history of architecture that has ever been written and is not too large to use as a text-book. The process of half-tone reproduction has contributed

largely to make this possible, for the illustrations are sufficient for the purpose.

Modern architecture is briefly described down to the present day, not omitting reference to that of the World's Columbian Exposition, and the present condition of the art in France, Germany, England and America is fairly described.

The report of the committee on education for 1895 was disappointing. It commences with a reiteration in brief of the substance of the report of 1894, which was "that by united action on the part of the several schools of architecture in the country, something could be done to procure for our present phase of civilization, and for the more satisfactory state of things which may be expected to follow it, some such architectural expression as, in the past, the civilization of almost every period seems to have received. The suggestion was made that an improvement in the method of studying architectural history in the schools would conduce directly to this end." Then it admits that there was not sufficient information at hand as to what the schools were actually doing for the convention of 1894 to form an intelligent opinion as to any improvement of methods. This statement evidently destroys the force of much that was said in the report of 1894. For after giving the results of its correspondence with the schools the committee says: "The evidence thus collected seems to show that it is not necessary for the Institute of Architects, as was suggested in last year's report, to ask these schools 'to systematize and coördinate the study of the historical styles.' They are already doing so."

If we are not mistaken, the main object of the 1894 report was to impress the directors of the several schools with the importance of showing their pupils, not how to use the historical styles as precedents, but "to learn how form and ornament were developed out of the genius of civilizations and peoples, and how they should be used in the service of modern art." In other words, that they should be impressed with the idea that they study history, not to become servile copyists, but for the very reason that they would be thereby impressed with the idea that in all the great periods of art, such a thing was not known and practiced, but the problems were being worked out as part of the development of the civilizations of those times. If the study of history does not conduce to teach men to think out their own problems, and cease worshipping false idols, it will only be an acquisition of that sort of knowledge which is known as "a dangerous thing," and had better be omitted altogether. It is a question whether or not we already have too much of it. But we cannot shut our eyes to it. Knowledge is like a flood that cannot be stopped. The trouble is that it comes to us in a fragmentary and disorderly way. What is needed is correct history, and if we must have it let us have all of it, consecutively told, without comment or prejudice, and not taught in such a way as to back up any one denomination or school of architecture. No good can come of it unless there is catholicity in the teaching.

In Mr. Hamlin's little book we now have the proper guide; but we did not have it when the report of 1895 was presented. The best evidence of this is found in the reports made to the committee, which show such diversity in the methods of teaching architectural history.

We must all acknowledge that any return to the old order of things, to the methods of design pursued in the great periods of art which produced the works that we so much revere, is in this age and most likely will in future ages be impossible. Such conditions could only be possible should the world ever again pass through an age of darkness when all history and all tradition has been forever lost and forgotten. Professor Ware, in his admirable paper, has thus described what this was in comparison with our present efforts. Referring to what his students are doing, he says: "But these studies take little cognizance of what was the prime factor in the production of these works of art, the fertile and ingenious mind of the old workman himself. All these facts of his environment, which are so interesting to us, and which present themselves so conspicuously to our minds, as the main elements of the situation, were to him simple matters of course. He did not think of them. They had no part in the reasoning which determined his action, an action which was determined, as we may believe, not by any process of reasoning from recognized principles, but by simple considerations of good sense and good taste. Of most of the influences which seem to us to have been so powerful he was as unconscious as the air he breathed, and the rest he felt only as he may have recognized the limitations under

*"A Text-Book of the History of Architecture," by N. D. F. Hamlin, A.M., adjunct professor of architecture in the School of Mines, Columbia College. New York: Longmans, Green & Co.; 12mo, 440 pages, 1896. "Proceedings of the twenty-ninth annual convention of the American Institute of Architects." Published by the Board of Directors, A. I. A., Alfred Stone, editor, 1895. "Report of the Committee on Education," by Henry Van Brunt. "Study of Architectural History at Columbia College," by Prof. William R. Ware.

which he worked. Even the logical and æsthetic principles which underlay his work and, as we can now see, largely controlled it, were, for the most part, as always happens with the skillful workman, only half revealed to him."

It is now four hundred years since civilization has passed the age of unconscious development, which produced the greatest architectural monuments of the world. Whatever has been done since then is the work of investigators, scholars and copyists. In no period of the world's history has self-consciousness been more evident than the nineteenth century. It is something that we cannot shake off. No matter what high ideals we may have, it steps between us and them. If we cannot discard it, our only hope lies in cultivating it and learning to control it. In self-discipline lies the only hope for architectural art, if there is anything left to hope for. It is futile to suppose that we can disregard the demands of utilitarianism, and the march of science which enters into our every act. Whatever the future produces will be with the full knowledge of all that we can learn of the past, and not from a smattering wielded by a so-called genius. All the preaching in the world will not make us Greeks, or Romans or Romanists, or Mediævalists, or Classicists, except for a time only, as we recognize fleeting fashions and fads. We have reached the highest development of self-consciousness, and must make the most of it. It cannot be smothered or suppressed, as Mr. Van Brunt has hoped in his book on Greek Lines, but must be disciplined in the light of such knowledge as we can acquire.

It is necessary now only to give the schools time to systematize this important study of architectural history for which the facility is provided. When it has had its effect, in due time, the students will begin to do their own thinking. Whatever the influence may be upon the architecture of the future remains to be seen, for no one can predict. The present chaos may continue or ideas may become formulated into an architecture of reason acknowledging and beautifying in a new way constructions that we cannot avoid. We are on trial before the world, and it remains to be seen whether with all our learning and science we can evolve an architecture consistent with our civilization, or will continue our effort to revive dead arts.

Thus far no suggestion has been made how best to study contemporaneous civil, social and religious history. Much will depend upon this for the success with which the teacher of architectural history will be able to make himself understood by the ordinary student, who has carried on these studies in the usual scrappy and disconnected manner. There occurs to us an admirable text-book in Swinton's "Outlines of Universal History," which might with profit be introduced in all the architectural schools. It is no larger than Mr. Hamlin's book, and could be used side by side with it, fixing dates and the succession of respective forms of government as well as social conditions, while it touches also upon the religious development of nations. By using this, much time can be saved and a large number of bulky works dispensed with. The events of all known periods are described very nearly in the order of the evolution of architectural forms. By its use the student will be enabled to understand not only the social conditions that have led to architectural construction, but those events which have caused their destruction as well and the creation of ruins which are still among the wonders of the world and subjects of study.

The plea of the committee, in the report of 1894, for a *united action* on the part of the several well-established schools, has not received the attention that it deserves. Granted that the schools will profit by the suggestions which this report has elicited, and that the means are at hand through the publication of Mr. Hamlin's handy volume, it only remains for those intrusted with their management to come together at stated times, compare notes and agree upon a united policy in teaching. It is therefore suggested that the schools send representatives to the annual conventions of the Institute, to constitute the *didactic section* of the convention, or a higher seminary of learning. For if an "intelligent unity of effort" shall actuate the teachers of our art, how much more confidently may we be able to look for it in its students and practitioners.

In the case of Architect David Evans, of Philadelphia, to recover damages for breach of contract, the decision was made in favor of the plaintiff for \$19,379. This is the outcome of a competition for the Bourse Building, which was held in 1892, and which was awarded to Mr. Evans. The following year the contract was rescinded and another architect appointed. The case may be carried to the Supreme Court.

"GLIMPSES OF THE BUSINESS SIDE OF AN ARCHITECT'S LIFE."*

BY JAMES R. WILLETT.

I ADDRESS you, young gentlemen, on the subject of the business side of an architect's life. If you wish to learn to swim, you must go into the water and strike out for yourself. It is true, a teacher of swimming may give you some ideas that will facilitate your learning, but the principal knowledge will come from your own exertions and experience. If there is one thing more than another that can only be learned by one's own experience, it is to be a business man; nevertheless, I may possibly be able to give you some ideas which may be of assistance to you; I shall endeavor to do so.

I take it for granted that I am addressing young men who must rely upon their own exertions for a living. It is in architecture, as in everything else, that it is necessary to be a good business man if you desire financial success. It is necessary, therefore, that you should learn business ways, business expressions and methods of dealing between man and man, and be able to discriminate between man and man, and judge each correctly. Business men are made up of all kinds and classes—architects, artists, bankers, bakers, etc.

It is not considered reputable, or professional, for an architect to advertise, and not much direct advertising is done; but there is no small amount of it done indirectly, by having names published in newspapers as architects of such and such buildings, etc., and this is done to a large extent by persons who would consider themselves insulted if you told them that they advertised. It was once the habit, and is yet to some extent, for the names of the owner, architect, contractors, etc., to be cut on the building; there is no objection in this, but this sometimes cuts the other way, especially in rapidly growing communities. There was a building in Chicago put up several stories high under the direction of a certain architect whose name was cut on the building; some years afterwards the building was carried up by the owner twice, or more, the original height, without the original architect being employed. After the last work was done, the building began showing signs of weakness and giving way, for all of which the original architect got the credit with the public, since his name was seen on the building.

There are two classes of men with which you have especially to deal, owners and contractors. The owner is usually a business man, which means a man engaged in any pursuit whatever. The contractor is a special class of which it is necessary that you know their special ideas. Don't fail to learn their ways, their mode of thought, their mode of expression, their trade terms, and everything that will tend to put you on an equality with them in their special line. There is nothing betrays the ignorance of an architect more than the fact that you do not use the ordinary building terms in your specifications. It is not desirable that you should show ignorance, but there is more than that, trade terms to the builder convey their own meaning without further explanation, but correct English, however grammatically and properly used, is to some extent Greek to many of the actual builders.

What is an architect? Webster defines him as a "master builder," and that, in my judgment, is a good definition; it implies a knowledge of design, a knowledge of construction and a knowledge of men, and the ability to manage the men, which is usually termed executive ability, and you should have an especial knowledge of the men you come in close contact with. A man may be a good designer, or he may be a good constructor, or he may have good executive ability. A man may be any one of these things, but that alone will not constitute him an architect.

Architects are not free agents, as you will find when you come to practice as such. They are subject to the conditions given by the owner, etc., and if you see what you deem to be mistakes and errors in other architects' work, remember that you do not know all the circumstances; perhaps if you did it might alter your judgment, and you may be quite sure that you will probably make just as many mistakes as anyone else, and then perhaps you will appreciate the injustice of random criticism. You may be quite sure that you will make mistakes, see to it that you do not make many, and if you make them, be ready to pay for them, and not dishonestly saddle them on either the owner or the contractor. Do not allow sympathy to influence you in business; tales of losing contracts may come to your ears, but you are not employed as a charitable agent. Be open and frank and just with all men, and especially, in this connection, with the owner and the contractor. But, if there is any presentation of a sympathetic case to be made, the contractor is the one to make it and not you. Let him make the statement he likes to the owner, and if the owner asks your opinion you can give it frankly and freely, but do not thrust it on him.

It has been said by one writer that it is impossible to make a set of drawings without some mistake being made. Well, that may be true, but don't let the young architect get the idea that he is not responsible for mistakes he may make. He is responsible for all his acts, good and bad, and should take the consequences thereof. It is not enough that you intend work to be executed so and so, neither a court nor a business man will be governed by your intentions; they must be the intentions which were agreed to in making a contract. If the dispute goes to trial, the court and the business man will take that view which looks to them most reasonable.

* Extracts from lectures delivered to the Senior Architectural Students at the Art Institute, Chicago, Illinois.

When a young architect is given a house to build and told by the owner that he does not wish to spend over \$10,000 on it, his ability will be best shown by making the best possible design for a building not to cost to exceed the amount given. Don't try to make a design for a \$100,000 house, however good it may be; the owner did not ask you for such a house, and he may look on your design as an attempt to defraud him. If you show an owner that you know how to design and build what he asks you for and keep within the limitations he gives you, you will do more to win his confidence than you will by all the designs you can make that he does not desire. Confidence is a plant of slow growth. Begin early therefore to acquire the confidence of those with whom you are likely to deal, and you will be apt to lay the foundation of a sure and permanent business.

It may be said that the conditions given by an owner are often incompatible; they ask for a house, the general conditions given for which would necessarily cost far more than the limit given; well, that is often the case. What should you do then? You have got two instructions, it is impossible to obey them both; tell the owner so, and tell him early in the day. Every architect knows, if not immediately after the conditions are given, yet he can soon tell when he proceeds with his work and before he has gone very far, that the work will cost greatly different from the amount named. The moment the architect finds this to be the case he should cease work and inform the owner.

Now, there have been many cases which went to trial, where this very thing was the point in question. An architect has received a certain set of instructions which he alleges truly could not all be complied with since they conflicted. He, for instance, was requested to design a building of a certain character and dimensions, and was told not to expend more than about a certain amount. It was impossible to do this, so he carried out the conditions given him as to character and dimensions, and neglected and ignored those as to cost. When the owner objected to pay his bill, he alleged the conflict of the orders, and claimed his fee for the large amount. Before there had been any great progress made with the drawings, it must have been clear to any competent architect whether or not the price would largely exceed the amount given. If it did and if the architect failed to so inform the owner at the earliest possible moment, then in my judgment, he was not entitled to a fee for the large amount—he was not open and candid with the owner. Remember, the owner is not an expert and is not supposed to have a knowledge of such matters, so that he can tell what buildings will cost. He, you may say, in this matter is the ignorant man of the pair, whereas the architect is, or is supposed to be, an expert and at home in the matter in which he is dealing. He therefore should be held to a much stricter account in such matters than the owner.

It may be said that some owners purposely make instructions conflict so that they may have an opportunity to oppose and dispute the architect's bill. Well, such doubtless is sometimes the case, but then if the architect wishes to obtain his fee, it is more than ever incumbent on him to give the earliest notice to the owner of the conflict of the instructions. Remember, the owner's desire is usually not for fame, and especially not for the architect's fame.

Talk not too much about what you will do. Promise little; promises are easy to make, and hard usually to keep. Besides, if the owner is an experienced business man, as he usually is, he knows this well already, and he will rely on you more, the less you promise. In short, be frank with the owner; find out what he wants, and try to accommodate his ideas as far as practicable; and when you cannot accommodate his ideas, or when they conflict, tell him so at the earliest practicable moment.

In speaking with the owner, as well as all other men, you must try and fathom his character; all men cannot be dealt with exactly alike; nevertheless the advice I have given you will generally be the best. Do not take offense if the owner tries to learn all about you, from both yourself and other parties. He may be disposed to question you much and closely. Well, that is a good sign, it shows that he is careful and prudent in what he undertakes, and therefore is very likely to conform with his contracts. If the owner has built before, he will be apt to be more reasonable and easier to get along with than a novice in building; on the other hand, he can probably more easily detect any of your flaws or defects.

In making designs (unless you are making them for competitive purposes) do not make a showy drawing; make one which will look better built than it does in the drawing. If the building looks better than the owner expected, he will be very well satisfied; if it does not look as well as he anticipated, he will probably be the reverse.

Here I might say something about "competition." Well, I cannot speak from much experience in this line, since with two or three exceptions I never made any competitive drawings and certainly am not in their favor. An architect of standing and with reasonable run of business ought not to waste his time on them. It is a good deal of a lottery; the drawings are usually deceiving even when not so intended, as they sometimes are. It is hard to tell a young architect, if he has nothing whatever to do, that he must not do anything, and see work go off to others. However, the worst objection to competitions lies in the fact that they lead young men to stretch their consciences. In their anxiety to get work and the temptations that are around, they are apt to do what is euphemistically termed "stretch the truth." They are apt to make promises that if not actually dishonest are not honorable, and it is a bad school for a young architect to get into; that

is the greatest objection I have to competitive drawings. There are apt to be some black sheep among competitors, and in the heat of the strife, men who may otherwise be honorable are led to do things that they would not be proud to have known.

Another thing the young architect has to consider, is what fee shall they charge? While five per cent is the usual, and, I may say, the standard fee, and ordinarily, especially for small work, it is certainly little enough, as a general rule you should adhere to that or something like it; however, I cannot agree with some that there should be a fixed charge as minimum. Any fixed charge is simply trade unionism, call it what pretty name you like. And, moreover, it is not true that one man's work is worth the same as another's; it is not true in any walk of life. Usually a man can afford to take a less per cent when he is taking a work that will cost a large sum than for one that is to cost but a small amount; therefore, I do not recommend the young architect to insist on any fixed price under all and every condition. But it is true ordinarily that five per cent is about as low as any work can usually be thoroughly and well done and leave any profit to the architect.

The office expenses will usually cost from two to three per cent if the work is thoroughly done, not counting the personal services of the architect at all, and sometimes it will cost more; I have found this by experience. Furthermore, I have noticed that most who do work for small fees, do not usually accumulate much for their old age.

I will suppose you have made designs, and one of them has been accepted by the owner. Detail drawings should be full, definite and complete; do not try to save labor or paper, nor leave calculations, etc., to be done by the contractor which belongs to yourself to do. It is no part of the contractor's duty to alter the drawings and specifications or to complete them in any particular; it is the architect's place. It is the contractor's duty to execute the drawings as he finds them, whatever condition they may be in, and if they cannot be so done, then it is simple evidence of incompetency or lack of honesty on the part of the architect. Contractors complain about this, and justly. It costs money to make drawings, and especially good drawings, and to figure drawings and to figure them correctly. There are some drawings the correct and complete figuring of which costs more than the drawings, and that is one reason why some architects shirk their work. If any work is done wrong, and the architect has not figured it all out, then he is to blame. It is not sufficient to say that the contractor should have done it and done it right; it was no business of his to do it at all, rightly or wrongly.

Be careful not to underestimate. Estimating is best done by a contractor; prices are changing, various occurrences are happening which are not usually known to the architect, but are known to the contractor, who is constantly buying material and executing work; but before a contractor is engaged to do any work, it becomes necessary that the owner must have some approximate idea of what the building will cost, and such estimating must be done by the architects. Be sure you tell him that your estimate is approximate and not exact; nevertheless it will not do to vary greatly from the approximated cost. It is to your interest that the owner should look to you for all information about the building. You will be likely to gain his confidence when he finds that your statements, while not exactly correct, are close and reliable.

In making out the contract, drawings and specifications, let fancy alone. Let everything be plain, exact and definite; make no picturesque letters or figures, that besetting vice of some draftsmen. The plainer your work is the better, since it is to go into the hands of men who are not usually over-educated, and may be misled by them. For some purposes the best specifications are drawings; as I saw it once written, "The best specifications are drawings, drawings, more drawings, most drawings," and this is undoubtedly true. It is well to make notes on drawings. It often happens that a note written out near the place it applies to is more readily noticed and understood than if placed apart in the specifications. Besides, the drawings are more apt to be seen by the men who execute the work than the specifications are.

Sometimes the designs are not to be executed under the direction of the architect; in this case you turn the drawings, etc., over to the owner and have nothing further to do with them, and usually when you do not control the erection of the building it is better that you should not go to, or have anything to do with it. You would, of course, be held responsible for any errors you might make in your drawings, but if you do not superintend you are not in any way responsible for its erection, and if you are not at the building at all it is safer for you, because it is evident you had nothing to do with the erection of it, whereas if you go there the public at large will assume that you have, or should have, authority, and should trouble arise you might be held responsible therefor. Some law suits where large damages were claimed and life had been lost owing to the failure of some supports of the building turned just on this point. In order that the building may be safe, it is not only necessary that the design should be correct, but that it should be correctly executed. If you do not control, stay away. Another reason is that if the owner desires you to superintend it he should employ you to do so; if he does not do that, you should not intrude where you may not be wanted. If the owner wishes to obtain your services for nothing, you should be careful not to accept his valuation of them.

We will now suppose, however, that you are employed to superintend the erection of the building. Usually, though not always, especially where the undertaking is a large one, bids are taken on the work, and it will be your duty to notify suitable contractors you may know to call and examine the plans and speci-

cations and bid thereon. Ask the owner if he has any contractors whom he wishes to bid, and if so notify them accordingly.

While the contractors are bidding, it is well for the young architect to be around and listen to the questions that are asked. You will learn then that all the contractors will not understand the specifications and drawings in the same way, at least in some particulars, and the knowledge that you will acquire as to how contractors look at work, what ideas they will advance and how best to express your ideas, will be useful to you in the future. Don't show any irritation at questions, no matter how ridiculous they may appear to you; it may be that the questions are ridiculous, but it may be that the ridiculousness is not in the question; let the contractors speak out freely; if you are discreet you may acquire considerable information.

(To be continued.)

THE MODERN OFFICE BUILDING.*

BY BARR FERREE.

PART III.—Continued.

THE Schiller Theater in Chicago is a building ninety feet wide and seventeen stories high; the depth of the lot is 180 feet. The theater is on the first floor at the back, the front of the building, and all the upper part over the theater, being given up to offices. It might as well be called an office building in which the theater uses part of the space, as a theater associated with offices. The union of the two buildings in a single structure is an excellent arrangement commercially, since the theater can occupy a costly site in the heart of the business center of the city, and the owners derive a handsome income from the offices. The same idea lies at the basis of the design of the Auditorium in Chicago, which is a vast opera house surrounded by a business block and hotel, the income from the latter portions being applied to make up any deficiency in the expenses of the former.

The site of the Schiller Theater being a long rectangle, with the shorter side facing the street, the architects solved the question of courts by narrowing the building at the sides in the center. The theater fills all the space, except for a line of offices on the street front, up to the fifth floor. At the sixth floor the side walls are dropped in the center, and windows inserted to light the offices on each side of the corridor in the middle of the building. At the back the *scène* runs up above the ceiling of the theater, but with the seventh floor the whole of the space is given up to offices, front, back and sides, the plan resembling a gigantic I. At the ninth floor the front is stopped on each side, to permit free access of light to the side courts within, the main portion being continued to the seventeenth floor, and given the architectural form of a tower.

The treatment of the front is masterly, and has, perhaps, never been surpassed in high design for simplicity and directness of expression, at once structural and beautiful. The tower in the center is divided into three great bays, finished with round arches at the top, and inclosing spacious and plain windows. At the top is a frieze story of small, round, arched windows, in a rich frame of foliated ornament, that is continued on the broad, boldly projecting cornice which completes the design. The treatment of the wings is equally fine; a simple bow window stopped below the uppermost story and a richly decorated frieze and cornice to correspond with the treatment of the center.

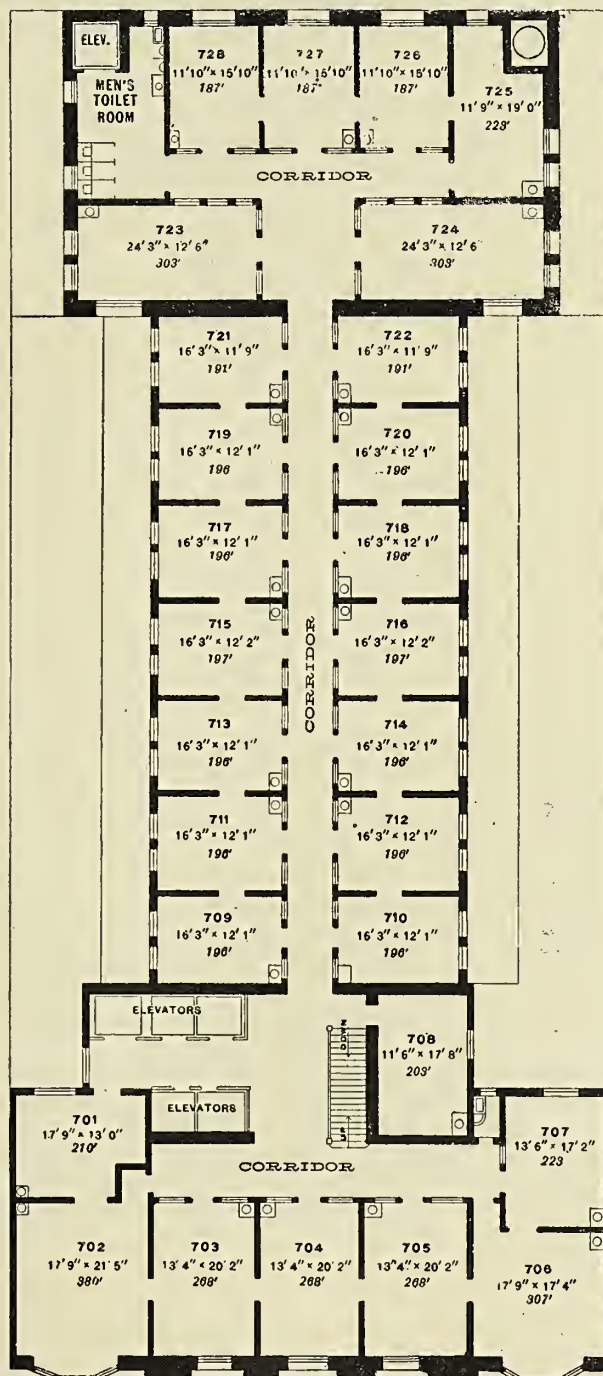
Now, the theater is an essential part of this building; it is natural and fitting, therefore, that it be expressed in the design. This has been done in an exceedingly happy manner, by carrying a richly carved balcony across the front of the building at the second floor, and by surmounting the tower with an open belvedere, which is not, it is true, visible from the street directly in face, but is nevertheless an integral part of the design. The balcony would be an anomaly in a strictly commercial design, but here it has a natural function in setting the building apart, as it were, from strictly commercial buildings. We have, therefore, a very great artistic success. The building has a beginning, a middle and an end; its design is structural, for the great vertical lines correspond to the columns of the frame which are contained within the facing piers; the window space is ample and sufficient; the plan is employed in a natural manner as an important element of the design; the festal nature of the structure is sufficiently indicated in the ornamental balcony and belvedere; finally, the whole has been carried out with a consummate artistic feeling and appreciation of the problem, which is not only rare to find in works so utilitarian as this, but which we often look for in vain in structures of a purely artistic and ornamental nature.

Among the many notable commercial buildings illustrating the same principles of design by the same architects, I shall only have space to refer, in the briefest manner, to the Guaranty Building, at Buffalo. This is a fourteen-story, rectangular building, on an ample site. The basement is of three stories, the superstructure of ten, the frieze of one. The leading element of the superstructure is the vertical lines of the piers between the windows, which, at the thirteenth floor, are connected by small, round arches, and, in design, are joined with the circular windows of the frieze. The whole of the surface of this building is covered with ornament; not structural ornament, as columns and pediments, and other artificial additions, but a finely designed, carefully modeled surface ornament, very rich in detail, yet kept well within the structural lines of the architecture. Though possibly the most richly decorated

commercial building in America, the skill of the artist has produced a design of structural sobriety with great richness of effect.

In both these designs, their success has depended, apart from the artistic feeling displayed in them, upon their unity. And this effect has been obtained, not only by the co-relation of the various parts of the façades to each other, but particularly by the long vertical lines of the superstructure, which naturally express the columns of the frame. That unity can only be obtained in a high design by unbroken vertical lines is apparent in comparing either of Mr. Sullivan's buildings with one in which the horizontal lines predominate. The building of the American Tract Society, in New York, is a fair example of such a structure.

It is true of the Tract Society's building, the design is not devoid of some eccentricity; but as it is one of the highest and latest office buildings in New York, and reflects, moreover, the



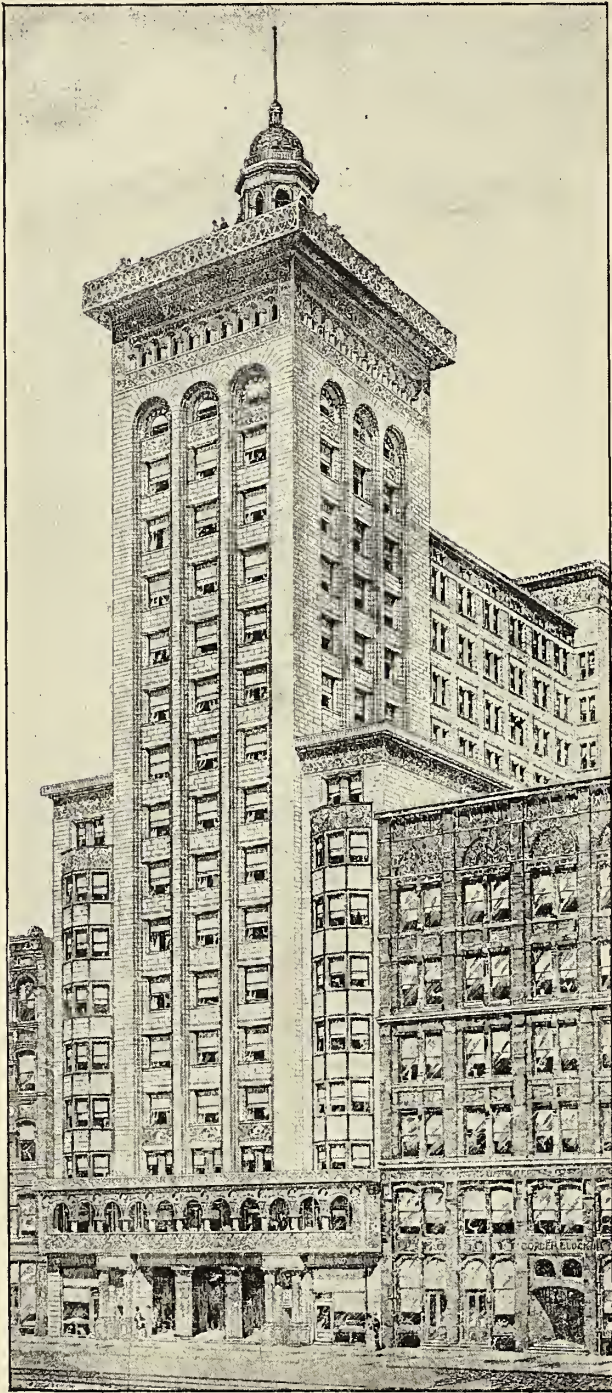
Plan of seventh floor, Schiller Theater, Chicago.

average principles of office design in that city, it may not unfairly be taken as a type of New York commercial design.

The building is a rectangle, with a small open court on the inner side adjoining the entrance front. Unlike many New York office buildings, the site is spacious, though its tremendous height of twenty-three stories has added to its apparent altitude. The most striking thing in this design is not its unity, but its diversity. We know it is a steel skeleton building, because no structure of this height would have been built on a site of this size in any other way; and, while there are no voids over solids, or solids over voids, there are no continuous vertical lines for a greater height than three stories in any part of the façades. The design, in fact, is not a single, homogeneous one, in which one part naturally develops into the other and each is related to the other, but instead, we have six great divisions piled one on top of each other, of independent design and without any relationship to any other part.

*A lecture delivered before the Franklin Institute, November 15, 1895.

At the beginning we have a basement of two stories, and, as every building must have a base, this entirely fulfills the requirements of good design. But above this comes a three-story section which is not a basement, because it is cut off from the part below by a cornice, and is, moreover, two stories above the level of the street; nor can it be a superstructure, for the major part of the



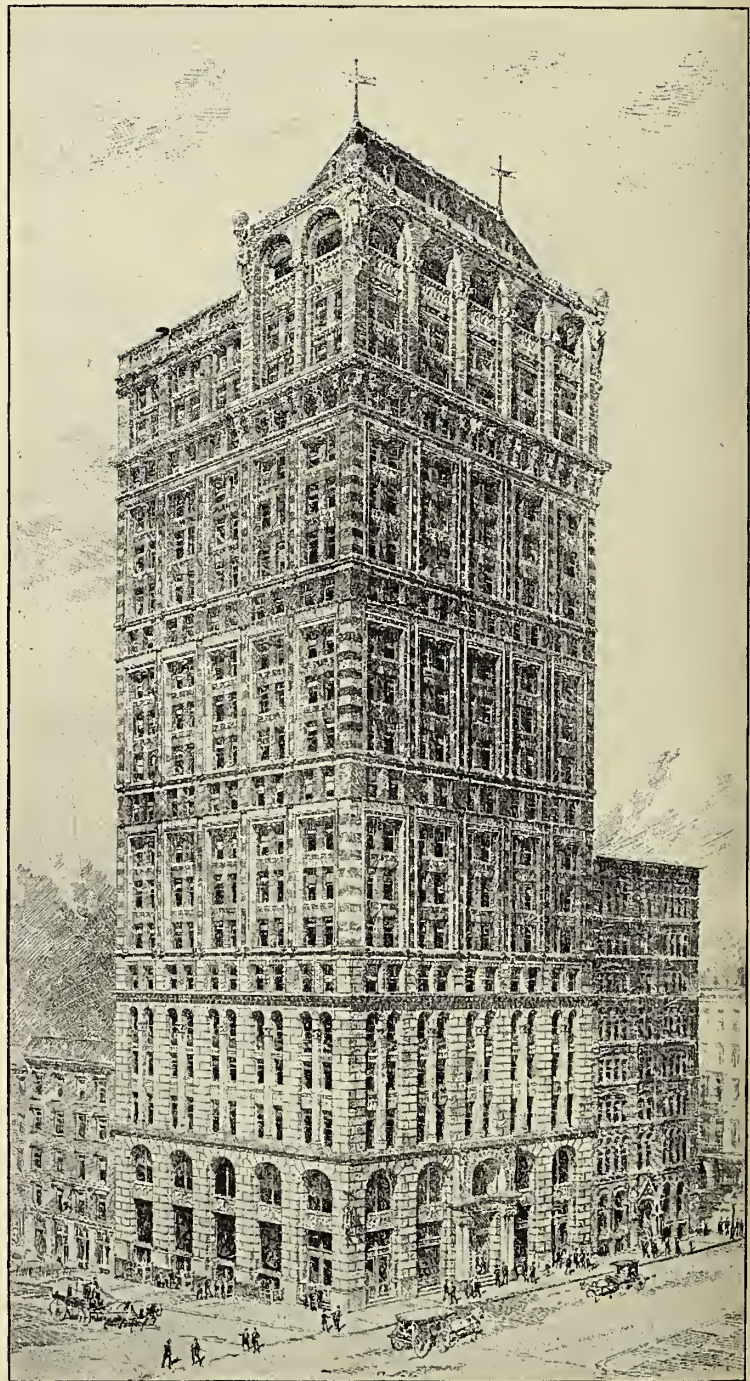
THE SCHILLER THEATER, CHICAGO.

building is above it. It is impossible to give it a proper architectural name, though as it is of stone, like the two stories below, and the upper part of the building is of terra cotta, it may, in the mind of its designer, have formed part of the basement. Over the cornice of this section is another section — a single story that appears to be an introduction to what is above it; then three stories with the windows inclosed within rectangular bays. A narrow string course runs below and above this part, and over it the same features are repeated; that is, the introductory story and the three stories in bays. And over this again they are repeated once more, cut off, as below, with horizontal lines, and forming sections complete in themselves. Over this is the heavy main cornice, supported on large brackets which entirely fill the space between the windows of another story. Here the building logically ends, for the cornice is naturally the finish of a building. But we have not yet reached the end, for above are more stories, with a great, porch-like erection in front, of applied columns carrying round arches, which are open and form a sort of belvedere; within these rises the hipped roof, which has a singular effect of growing out of the space behind the arches.

The error that led the designer of this building astray is very obvious; he did not understand the value of unity in a high

building, and certainly did not know how to obtain it. Instead of unity, sobriety and strength, we have variety and change. The design is varied at every possible point, and cut up by horizontal lines and divided into shallow sections, in the false hope of making the building seem lower than it is. Yet it is a part of its merits in the eyes of its owners that it is big; why, then, disguise this fact? And why, if it is a single building, and therefore a unit, mar its unity by cutting it into parts, and varying its design for sheer sake of variety? The porch on the top is most unhappy in its effect; it completes the building, but only because there is nothing above it; it certainly is without relationship to what is below, nor are any of the lower sections related to any other part. There is ample material here for a good design; the architect has brought to his work a broad acquaintance with his art, and a fine mastery of detail; but he did not understand his problem. There is no structural significance in the design — simply a using-up of space, and an evident fear of long, uninterrupted lines.

It would be easy to multiply examples of badly conceived designs for office buildings, or to name buildings that violate the rules of art more flagrantly than the one we have just studied; but this must suffice. It is folly to deny that the average artistic standard of design in the modern office building is not good. The "skyscraper" has become a synonym for things of horror, and a blot upon the artistic aspects of our modern cities. That they are so is frequently true, but the error lies in the treatment, not in the dimensions of the buildings. Great office buildings like the Schiller Theater, the Stock Exchange, the Auditorium, the Old Colony Building, the Monadnock Block and others, in Chicago; the Wainwright and the Union Trust, in St. Louis; the Mills Building, in San Francisco; the Guaranty Building, in Buf-



AMERICAN TRACT SOCIETY'S BUILDING, NEW YORK.

falo; the Union Trust Building, in New York; the Ames Building, in Boston, and some few others in these and other cities, show that, logically and artistically treated, the modern office buildings may be ornaments to our cities, and, by virtue of their art alone, take that supremacy to which, in the popular mind, they are entitled by reason of their size and their cost.

The last few years have witnessed a prodigious growth in the number of office buildings in the large cities of the United States. The architects have been eager to build them, for such costly work gives them more profitable employment than much of the lesser work they are usually engaged upon. They have become popular with investors; they have been used as an advertisement in displaying the wealth of their owners; they have become an integral part of our modern commercial life. But their artistic progress has not kept pace with their structural development. The solution of the façade is not, indeed, yet to be found, for the vertical designs of many of the Western office buildings show the system to be followed in all high buildings, but the façade calls for a more rational treatment than has yet been given it in the larger number of instances. The duty of the architect, so far as artistic effect is concerned, is chiefly limited to the façade. The interior of the office building offers little to the visitor or the tenant in the way of artistic enjoyment. Well-lighted offices, ample elevator service, light corridors, convenient toilets and abundance of sunlight, the best of ventilation, and a satisfactory system of heating and plumbing, are what the tenant requires more than decorated apartments. In buildings devoted, in part, to great corporations, the rooms of the company, as in the Manhattan and the Metropolitan Buildings, in New York, will be fitted up in a sumptuous fashion, regardless of expense. But these are private apartments, and form no part of the public features of the buildings. The entrance halls and elevator inclosures thus remain as almost the sole parts of the interior susceptible to artistic treatment. The value of a rich decoration for these parts has long been admitted by the architects and owners, and many splendidly decorated halls have been built in the larger office buildings.

The most notable of these is, without doubt, the interior court of the Metropolitan Building in New York, a superb apartment, lined with decorated marble, with delicate carving, with onyx and with bronze, with a disregard of cost and a sumptuousness of effect that is comparable only to the palatial architecture of Europe. That large expenditures are made for such decorative work as this speaks much for the general appreciation of art in the modern office building, and certainly the history of architecture offers few more striking contrasts than that between a palatial structure like the Metropolitan Building and the little four or five-story buildings in which the merchants of a generation or less since transacted their business, and laid the foundations of the fortunes that, today, render our vast office buildings possible and profitable.

(Concluded.)

MEETING OF EXECUTIVE COMMITTEE OF THE BOARD OF DIRECTORS, A. I. A.

AGREEDABLY to the call of the president, a meeting of the Executive Committee of the American Institute of Architects was held on May 25, at the headquarters of the Institute, 156 Fifth avenue, New York, President George B. Post in the chair. Present, Messrs. Keudall, Andrews, Fames and Stone.

The secretary reported that he had issued the report of the proceedings of the twenty-ninth annual convention, which was held at St. Louis, October 15, 16 and 17, 1895, and had sent a copy to every Fellow of the Institute, to every honorary and corresponding member, to foreign societies, to scientific societies and to many public and university libraries; that he had had printed under separate covers two papers read at the St. Louis convention by Mr. Norman S. Patton and Mr. James B. Cook, and sent a copy to each Fellow, together with a circular asking Fellows to study the same and to send to Mr. W. W. Clay opinions and suggestions in regard to matters contained therein; that he had had printed five hundred copies of Mr. Van Brunt's eulogy on the late Richard M. Huut, with two prints from photographs of Mr. Huut; and that a hundred of Professor Johnson's papers on "Timber Tests" and "The Designing of Flitched Beams" were struck off and given to Professor Johnson for his own use.

Since the last meeting of the Board, the secretary has received notice of the death of W. J. Edbrooke, a Fellow of the Institute, on March 25, and of the death of Chev. J. da Silva, one of the oldest of the honorary members of the Institute, at Lisbon, on March 20, and of Hon. Martin Brimmer, also an honorary member.

A new edition of the schedule of charges has been printed, with a change authorized by the board in the paragraph relating to soliciting patronage.

At the request of the Washington State Chapter, the secretary addressed a communication to the Committee on Agriculture in favor of the passage of an act to appropriate funds for investigations and tests of American timber, but this Congress has even cut off the appropriation asked for by Mr. Fernow, at the head of the Forestry Division of the Bureau of Agriculture, and no appropriation has been made.

A communication signed by the president and secretary of the Institute has been sent to the Committee on Claims of the House of Representatives in regard to the claims of the heirs of the late Thomas U. Walter, and your secretary is under the impression that it was reported upon favorably, but does not know that the act has passed.

The secretary has been requested to write a letter in regard to the destruction of the Bulfinch portion of the Massachusetts State House, but did not consider himself authorized to express an opinion from the Institute, and therefore contented himself with an expression of his individual opinion, in harmony with that expressed by many other Fellows of the Institute. So far as informed, the result of the contest is not yet reached.

At the request of a committee of the National Electric Light Association, the secretary, under the direction of the president, represented the Institute at a conference of several delegates from learned societies, each of which sent one delegate to New York to the conference, and as a result it is proposed to form a national representative organization, the object being to establish a uniform national code of rules for electrical work. The action of the president was approved, and the Institute pledged itself to a payment of not exceeding \$25 per year toward defraying the expenses of the organization.

The secretary has had many applications for old copies of proceedings of annual conventions of the Institute, and has endeavored to supply the same to the great public libraries of the country and to universities, but many of the numbers he cannot obtain. He has advised librarians to apply to Fellows in their vicinity to make an individual effort to supply the missing numbers. The Institute itself is now in possession of a complete set.

The secretary continues to receive the proceedings of the Royal Institute of British Architects, and has lately received and acknowledged a printed paper in pamphlet form on "Theater Panics and Their Cure," by Archibald Young.

The treasurer sent a written report, showing a goodly sum on hand, although payments have not been as prompt this year as last. It was voted that a number of persons be dropped from the rolls of the Institute for nonpayment of dues.

The president reported from the Committee on Government Architecture that the committee had held several meetings, and it has assurances that the Aldrich bill is favorably considered by not only the Assistant Secretary of the Treasury, but is also favored by the Secretary of the Treasury. The present Supervising Architect regards the passage of the bill as less important than he did before he was familiar with the organization of the office. The speaker of the house, although favoring the bill, is opposed to all legislation requiring expenditures of money, and the pending presidential campaign has so far prevented action thereon.

Such progress has, however, already been made in the matter of procuring the passage of the bill that the committee is of the opinion that if the matter be properly and vigorously pressed, it may possibly be passed by the present Congress, but if not, then by the next Congress. It is essential that a special appropriation be made by each Chapter for the purpose of defraying the proper expenses of the committee, in order to successfully prosecute their work, and suggests that such appropriation should be in the proportion of \$5 to each Chapter member.

The president reported progress in the matter of Institute headquarters, and a report may be expected at the Nashville convention.

Mr. Andrews, for the committee to investigate as to the authorship of the design for the Congressional Library, reported that it had investigated the matter referred to it; that Mr. Casey had written a communication to *Harper's Weekly* which had been published by it, explaining his professional connection with the building, but followed by an editorial statement that what had been published was authorized by Mr. Casey, which, however, was not true as to the title of the article, which gave his name as that of the architect of the building, as he had not seen and did not authorize said title. The good work in the interior of the building, however, had been designed by Mr. Casey, and his name ought to be placed on the tablet as the architect to complete the work.

The secretary read a correspondence between Mr. H. W. Hartwell, F. A. I. A., and himself, and between Mr. E. J. Lewis, Jr., secretary of the Boston Chapter, and himself, in regard to the resignation from the Boston Chapter of Mr. Hartwell and his partner, Mr. W. C. Richardson, both fellows of the A. I. A., and the secretary was directed to further communicate with the Boston Chapter and with Messrs. Hartwell and Richards in regard to the same.

A letter was presented from Thomas Boyd, secretary of the Western Pennsylvania Chapter, announcing that it had adopted a new constitution and by-laws, and had changed its name from the Western Pennsylvania to the Pittsburg Chapter, whereupon it was voted that the same be approved by the Board, and that a new charter be issued, if desired by the Pittsburg Chapter.

A communication from the secretary of the Colorado Chapter was read, giving a list of the officers, an extract from the president's address, showing the condition of the Chapter, information that it had lost a number of members by removal from the state, and that one member had been expelled for unprofessional conduct.

Applications for election as Fellows of the A. I. A. were received from R. E. Dexter, of Dayton, Ohio, and J. Graham Glover and Rudolph L. Daus, both of Brooklyn, New York, and having been found to be made in accordance with the provisions of the by-laws, and their drawings submitted being approved, it was voted that they be provisionally elected, and that the secretary be directed to issue a letter ballot in accordance with the by-laws of the Institute.

As a result of the last letter ballot, the following have been found to be elected Fellows of the American Institute of Architects: George H. Clemence, Worcester, Massachusetts; Leon E.

Dessez, Washington, D. C.; Louis F. Stutz, Washington, D. C.; Will S. Hebbard, San Diego, California.

A communication from the American Meteorological Society, asking for favorable action on the adoption by the United States government of the metric system, was referred to the annual convention.

Adjourned.

Attest:

ALFRED STONE, *Secretary*.

OUR ILLUSTRATIONS.

Competitive Design, Illinois Trust and Savings Bank Building, Chicago. Submitted by Charles S. Frost, architect.

Competitive Design, Illinois Trust and Savings Bank Building, Chicago. Submitted by Henry Ives Cobb, architect.

Competitive Design, Illinois Trust and Savings Bank Building, Chicago. Submitted by Hill & Woltersdorf, architects.

Competitive Design, Illinois Trust and Savings Bank Building, Chicago. Submitted by Shepley, Rutan & Coolidge, architects.

Competitive Design, Illinois Trust and Savings Bank Building, Chicago. Submitted by Liuk & Rosenheim, architects, St. Louis, Missouri.

Accepted Competitive Design, Illinois Trust and Savings Bank Building, Chicago. D. H. Burnham & Co., architects.

The competition was entered by fourteen architects and the building is to occupy the west half of the half block occupied by the old Grand Pacific Hotel. The lot is 168 by 178 feet; material of the exterior will be dressed granite. Vertically the structure is in three divisions, the height of the first story being twenty-four feet, of the second twelve feet, and above that fifteen feet for the skylight. The height on the street front is sixty-two feet. The design of the interior is that of a broad corridor on the ground floor surrounding a great court, and around that court is a balcony or second story. The interior of the ground floor is to be the working space of the employees of the bank, and this will, of course, be perfectly lighted from the sky. The rest of the space on that floor is for the public and the cages of the cashiers, tellers and clerks of the banking department. The second story will be devoted to the trust department, with rooms for the president and other officers, directors' room, assembly room, dining-room, kitchen and various other spaces required for the convenience of the department. The character of the interior finish of the building has not yet been fully decided upon, but it will be in mosaic, marble and fine woods. The basement will be devoted to the safety deposit vaults. The cost will be about \$400,000.

Photogravure Plate: Masonic Temple, Detroit, Michigan. Mason & Rice, architects.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Semidetached Houses for Architect Z. Rice, Detroit, Michigan. Mason & Rice, architects.

Entrance Detail, Residence of Mr. Thompson, Detroit, Michigan. Mason & Rice, architects.

The Walker Offices, Walkerville, Ontario, Canada. Mason & Rice, architects, Detroit, Michigan.

The Lee & Cady Warehouse, Detroit, Michigan. Mason & Rice, architects, Detroit, Michigan.

Summer Residence of W. C. McMillan, Grosse Point, Michigan. Mason & Rice, architects, Detroit, Michigan.

Stores, No. 674 Main street, Buffalo, New York. Material, marble and terra cotta; cost, \$40,000. E. A. Keut, architect.

Residence, No. 484 Delaware avenue, Buffalo, New York. Material, yellow sandstone; cost, \$25,000. E. A. Keut, architect.

ASSOCIATION NOTES.

ILLINOIS CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

The regular monthly dinner of the Chapter was held at its rooms at the Institute of Building Arts, May 18. The guests of the Chapter were Messrs. C. W. Gindele, Grace, Bloomfield, Fox, Dungan, Earnshaw and Leach, of the Chicago Masons' and Builders' Association. About thirty-five members were present. President George Beaumont in the chair.

The president introduced the special business of the meeting by stating that in accordance with a resolution of the last meeting the executive committee had invited the Masons' and Builders' Association to delegate such members as it might designate to meet with the Chapter and have an informal talk with the architects about the Code of Practice which the association had recently promulgated for the government of its members, referring especially to that part which related to their business dealings with architects. He stated that it was not intended that the Chapter should take any action; that the talk should be entirely informal, with a view to calling out the opinions of as many members as possible, and he hoped that it would result in great benefit not only to the association represented by the guests who were present, but to the members of the Chapter. He felt confident that if the code should not be acceptable to the architects the association would be glad to amend it, and referred to an informal conference which had already taken place between a committee whom he had appointed and a similar committee of the masons at the Building Trades Club, the result of which would be read for information, and in which both parties had agreed upon certain amendments.

After the secretary had read a letter from W. W. Boyington, who was unable to be present, pointing out some inconsistencies between the code and the proposed form of contract of the Masons' and Builders' Association, the president introduced William Grace, who had been chairman of the committee which prepared the code. Mr. Grace explained the position of the masons and builders, and their reasons for promulgating the code at the present time, and asked for a fair criticism of its provisions.

Mr. Adler did not think it was proper for the Chapter to consider the code at an official or any other meeting, but that it should be treated as a personal matter by each member. He therefore moved that the Chapter adjourn, and that, immediately after the adjournment, a meeting of architects be organized.

Mr. Clay explained the object of the meeting from his point of view, and for the sake of taking the sense of the Chapter seconded Mr. Adler's motion.

Mr. Fiedler moved as a substitute that the code be read section by section and discussed informally. The motion was seconded and adopted.

The code was then read section by section by Mr. Gindele, and nearly all the sections were freely discussed. The discussion was taken up on the part of the visitors by Messrs. Grace, Fox, Gindele, Earnshaw and Bloomfield, and by Architects Beaumont, Fiedler, F. W. Perkins, Clay, Treat, Morrison, Orenstein, Druiding, Wight and D. H. Perkins. It lasted four hours. The builders who were present agreed to recommend several amendments, and some articles were reserved for revision. The most friendly spirit was shown throughout in the discussion. Elsewhere we print that part of the code which relates to dealings with owners and architects, as amended and recommended by the committee of the association as a result of the conference. It was too late to take up the proposed form of contract, but a report was read from Mr. Otis, who had been appointed to collect information on the subject.

At a meeting of the executive committee C. W. Coolidge was elected a member of the Chapter.

TECH STUDENTS WILL GO TO EUROPE TO STUDY.

The first instance of a summer school studying in Europe a-wheel will be afforded by the Technology Summer School of Architecture this year.

The Technology Summer School will be made up of between twenty-five and thirty members of the architectural course traveling under the personal conduct of Professor Homer, of the architectural department. The idea of the European trip a-wheel was broached by Professor Homer to the students in the course three months ago, and it met with instant favor.

The Summer School of Architecture is an institution of three years' standing, and it has proved to be a very successful undertaking in the three years of its existence. The plan proposed this year, however, goes far ahead of the more modest sessions of the school in former years, and it will probably be copied by other institutions where architecture is one of the branches of study.

The school will start for Europe in two detachments of about twelve students each.

The whole school will assemble in London on June 15, barring accidents, and after four days spent in the metropolis will start a-wheel for Southampton to there embark for France. The first party will spend three days on the way from Liverpool to London, and will visit the cathedral cities of Worcester, Hereford and Gloucester, besides making a tour of the colleges of Oxford. The second party will go immediately from Liverpool to London. The four days spent in London will include a number of trips to points of interest in the vicinity of the capital, such as Windsor Castle and Eton College.

COLORADO CHAPTER A. I. A.

The fifth annual meeting of the Colorado Chapter of the American Institute of Architects was held at Denver, May 11, at the residence of F. E. Edbrooke. The reading of reports from the various officers and committees, concluded with the election of the following named gentlemen as officers for the ensuing year: President, Robert S. Roeschlaub; vice-president, Frank E. Edbrooke; secretary, F. E. Kidder; treasurer, E. R. Rice. The general depression in business during the past three years has had a marked effect upon the numerical membership of the Chapter, it being only about one-half now what it was in 1892, but the Chapter believes that in reputation and influence it is continually growing stronger. Those architects present at the meeting were: Messrs. Cutshaw, Edbrooke, Kidder, Marean, Murdock, Rice, Roberts, Roeschlaub, Sterner and Varian.

UNIVERSITY OF PENNSYLVANIA — SCHOOL OF ARCHITECTURE.

The Traveling Scholarship in Architecture of the University of Pennsylvania, for 1896-97, has been awarded by the jury to Mr. Albert Kelsey. The vote in this decision was unanimous. By majority vote honorable mention has been given to Mr. Harker W. Jackson. Seven designs were entered in competition. The Jury of Award comprised the following architects: Messrs. A. W. Longfellow, Edmund M. Wheelwright, of Boston, and Bruce Price, Thomas Hastings and Prof. A. D. F. Hamlin, of New York. This scholarship grants \$1,000, and requires its beneficiary to spend one year in study and travel in Europe. It has been offered annually during three years prior to the present, and was awarded to James P. Jamieson in 1893, George Bispham Page, 1894, and Percy Ash, 1895.

MOSAICS.

THE Architects' Club of Baltimore, at its annual meeting, April 2, reelected Mr. J. B. N. Wyatt president, and Mr. William W. Emmert vice-president. The board of control consists of Messrs. George Worthington, William G. Nolting, L. Simon and R. P. Alton. Mr. William W. Ellicott was elected secretary and treasurer.

IN the Lake regions of Wisconsin, Northern Michigan, Minnesota, Iowa and Dakota, there are hundreds of charming localities preëminently fitted for summer homes. Nearly all are located on or near lakes which have not been fished out. These resorts are easily reached by railway and range in variety from the "full dress for dinner" to the flannel-shirt costume for every meal. Among the list are names familiar to many of our readers as the perfection of northern summer resorts. Nearly all of the Wisconsin points of interest are within a short distance from Chicago or Milwaukee, and none of them are so far away from the "busy marts of civilization" that they cannot be reached in a few hours of travel, by frequent trains, over the finest road in the Northwest—the Chicago, Milwaukee & St. Paul Railway.

THE new union depot at Columbus, Ohio, for which D. H. Burnham & Co., of Chicago, are architects, will be the most extensive union depot in the state. It will cost upward of \$600,000. The Guaranty Construction Company, of Chicago, are the contractors, and the superintendence will be directly in charge of Theodore Starrett, vice-president of the company. The length of the depot will be 487 feet by 85 feet wide. A concourse 200 feet in length will connect the depot with the viaduct which crosses the tracks at this point, and on which will be constructed 857 feet of stores. The entrance to the concourse from the viaduct will have a large Roman triumphal arch at either end—over 100 feet from the tracks to highest point. The Corinthian order is used. The stores will be constructed of Roman brick and elaborately trimmed with terra cotta. The same general design of the Roman classic in the depot will be followed throughout. The interior of the depot is highly treated in foreign marbles and mosaics, the ground floor being used for waiting rooms, etc. The spacious offices of the company will occupy the second floor. The depot will be constructed with granite base, Roman brick and terra cotta walls and red tile roof.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT, }
CHICAGO, June 10, 1896. }

THE long-drawn out depression continues and business drags its slow lengths along, making the best of conditions. The hesitancy on the part of investors, promoters, manufacturers and railway managers and money lenders still manifests itself in all channels of trade and activity. Prices are weak and margins narrow. The reputed abundance of money in banks does not encourage those who drive business to avail themselves of it. The best business men feel it wiser to move cautiously. But the volume of business this year is greater than last. Building operations are greater. Factory and mill building is considerably larger than last year. Consumption capacity is greater and the corresponding earning power of the people has expanded. There is, however, a heaviness in the markets, a tendency to form associations against a decline in profits and to avoid overproduction, and a cautiousness in turning wheels and pushing furnaces to not overdo. Years ago overproduction piled our markets full, against which there seemed to be no protection. Trade has in these later years learned to protect itself by restriction and association. These measures do so only in part and within narrow limits. Competition is only moderated. Our advices gathered month by month indicate a gradual growth of healthy conditions. In cities real estate is improving, finer and more costly buildings have been erected. Costly systems of municipal improvement have been and are being inaugurated. Quick transportation facilities are multiplying. Suburbs are being built up. City life is being made more enjoyable and semi-rural life more inviting.

The house builders in our large cities and towns have not been idle. The modern improvement in industrial conditions have been followed by an era in house building that has helped quite a number of industries, lumber, iron, hardware, paints, planing mills, and so on. With the bettering conditions that seem to be dawning for the latter half of the year it seems reasonable to conclude that house, mill, shop and factory building will improve still further. Building and loan associations are gathering new strength and their number is increasing. The people's savings in those states where a record is kept, shows an increase even under present surroundings. Inquiries among architects and builders in smaller towns in the industrial states from Maine to Iowa show that a great deal of work is in prospect. Railroad managers are weary waiting for bettering prospects when they can inaugurate long-delayed improvements and additions to rolling stock. There was perhaps never a time when there is as much idle capital awaiting investment as now. One English authority says there are in round figures \$1,000,000,000 awaiting an opportunity for investment. Be this an exaggeration or not, it is true there is enough idle money awaiting employment to make a very great difference in business and manufactures when employed. We are told that it is our uncertain attitude as to the character of the money in which we will as a nation pay our debts, that makes the hesitancy to invest. This excuse or pretext or cause will soon be removed. It is, however, to be regretted that the shutting off or letting on of activity and prosperity is in the hands of a comparatively few possessors of metallic wealth in foreign countries who never toil nor spin. The people are doing a great deal of fundamental thinking on this question, and though defeated for a time and misled for a while they will find a way to stand on their own feet and not be obliged to beg the holder of foreign purse strings for money to work with.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Buffalo, N. Y.—Architect W. H. Archer: For Mr. Tift, four-story apartment house; to be built at Nos. 190 and 192 South Division street; to be built of molded pressed brick and terra cotta, with ornamented bay windows of galvanized iron on each floor; will be fireproof, with galvanized iron cornice and metal lath; will be finished in beech, with steam heating apparatus, gas fixtures, bathroom outfit, water closets in each flat, electric bells, etc.; cost \$30,000.

Governor Morton has signed the bill providing for a preliminary appropriation of \$25,000 for beginning work on a new armory for the 74th Regiment, to cost \$400,000. State Architect Isaac G. Perry will prepare the plans. The structure will be the finest of its kind in the state. It will also be the largest; it will be 640 feet long.

Architect Frederick C. H. Mohr: For the Clinton Savings and Loan Association, three-story bank building; to be built on William street, just east of Jefferson street; to be of stone with carved columns up to the second story, which will, with third story, be of Pompeian brick and terra cotta; a tower twenty feet in height will cap the whole structure; whole front will be decorated with ornamental copperwork; whole building will be lighted by electricity and heated by steam; cost \$10,000. Mr. Mohr has completed plans for a new fire-engine house; to be built for the city at the southeast corner of Gold and Lovejoy streets; it will be two stories high, of brick with a hose tower, and will cost about \$9,000. The Commissioners of Fire will be called upon to approve them within a few days.

Architects Phillips & Pentecost: For William Hughes, two-story flat building; to be built on West Avenue; will be of brick, Colonial style of architecture; will be finished in oak and sycamore; will be heated by steam, bathrooms floored with cement, gas fixtures, fancy mantels, etc.; cost \$12,000.

Architect Robert A. Wallace: For Mrs. George Diebold, two-story residence; to be built on Maryland street; will be of pressed brick, with large veranda and bay window; will be finished in quartered red oak and sycamore; will be equipped with radiators for hot-water heating, laundry room with concrete flooring, refrigerator, special gas range, electric bells, speaking tubes, sanitary plumbing, bathrooms, water closets, gas fixtures, etc.; cost \$10,000.

Architect Charles B. True, of New York: For J. B. King & Co., of New York, four-story warehouse; to be built at the foot of Genesee street; will be of brick and stone, with framework of iron; will be fireproof, 182 feet long and 47 feet wide; cost \$15,000.

Architect H. L. Jekel: For H. Davis, four-story building for two stores and nine flats; to be built at the corner of Ellicott and Mohawk streets; will be of red pressed brick, with trimmings of molded brick and cut stone; stores will have plate glass fronts and flats will be finished in hardwood; flats will have sanitary plumbing arrangements, gas fixtures, bathrooms and water closets, electric bells, steam heat, mantels and fireplaces and other improvements; cost \$20,000.

Architects Loverin & Whelan: For L. H. Allen, Derby, New York, two-story summer residence; to be built on the lake shore; will be of frame, finished in hardwood, with cabinet mantels, tile fireplaces, wooden grille work, hardwood floors, bathrooms, sanitary closets, etc.; cost \$5,000.

Architects Boughton & Johnson: For the Colonial Building Company, five-story bachelor apartment house; to be built on Delaware avenue near Edvard street; will be of chocolate pressed brick, with a two-story portico of Vermont marble; will be finished in hardwood, with all modern improvements; cost \$55,000.

The architects of the Erie railroad have prepared plans for a new passenger station at Jamestown. It will be of brick, two stories high, and will cost \$20,000.

Architects Green & Wicks: For Mrs. L. S. Howard, two-story residence of unique design; to be built on Summer street near Elmwood avenue; will be of red stock brick, trimmed with white marble and red sandstone; will be finished in hardwood, with bathroom with mosaic floor, shower and porcelain bath tubs, fireplaces and fancy mantels, hot and cold water, heating apparatus, gas fixtures, electric bells, etc.; cost \$20,000.

Fred Koch, whose brewery at Dunkirk was destroyed by fire a month ago, will rebuild. About \$25,000 will be expended in a new structure.

Architect Louis Saenger: For John Brunner, three-story building for store and apartments; to be built at the corner of High and Michigan streets; will be of brick, with trimmings of red sandstone; store will have plate glass front; apartments will be finished in hardwood with all improvements; cost \$15,000.

Architect Frederick W. Humble: For A. Fisher and others, two-story flat building; to be built at the corner of Woodlawn avenue and Michigan street; will be of brick, with roof of French slate; will be finished in hardwood, with gas and electric light fixtures, furnace, fancy mantels, fireplaces, bathrooms, water closets, etc.; cost \$10,000.

Architects Green & Wicks: For W. H. Glenny, three-story residence; to be built at the northwest corner of Delaware avenue and Ferry street; will be of brick, finished in hardwood, and have all modern improvements; cost \$25,000.

Architect August Esenwein: For Sherman S. Jewett & Co., five-story factory; to be built on site of factory recently destroyed by fire on Perry street; will be of brick, with framework of iron; cost \$50,000. For the State, a number of brick and stone buildings for new State Insane Asylum at Collins; details will be given out this month; buildings will cost about \$1,000,000. For German Young Men's Association owners of Music Hall, alterations to theater; cost \$50,000.

Chicago, Ill.—Architect John Addison: Is making plans for a double deck to grand stand at the ball park; it will be 300 feet long and 15 feet wide. Also made plans for a two-story and basement factory, 27 by 100 feet in size; to be erected at Sedgwick street corner of Beethoven place, for Oscar F. Mayer & Brother; to be of pressed brick and stone, have plumbing, steam heating, power, etc. Also made plans for remodeling residence at 378 Erie street, for John T. Noyes; will put in new plumbing, hardwood finish, hot-water heating, etc.

Architect L. M. Mitchell: For A. Amundson, a three-story and basement flat building, 25 by 72 feet in size; to be erected at Wellington avenue near Seminary avenue; it will be of pressed brick front with buff Bedford stone trimmings, have the interior finished in quarter-sawn oak, the modern open plumbing, gas fixtures, furnaces, etc.

Architect W. L. Klewer: For Frederick C. Klein, a two-story, basement and attic residence, 26 by 48 feet in size; to be erected at Paulina street near Berteau avenue, Ravenswood; it will be of frame construction, have stone basement, hardwood interior finish, mantels, sideboards, gas and electric fixtures, heating, etc. Same architect made plans for St. George's Church, 70 by 155 feet in size; to be erected at Thirty-third street and Auburn avenue; it will be constructed of pressed brick with stone trimmings, have interior finished in oak, have gas fixtures, the necessary plumbing, steam heating, etc.

Architects J. F. & J. P. Doerr: For estate of Polcin, a four-story store and flat building, 100 by 116 feet in size; to be erected at Thirty-ninth and State streets; it will be of pressed brick with buff Bedford stone trimmings, have hardwood interior finish, mantels, sideboards, the modern open plumbing, steam heating, etc.

Architects Ostling Brothers: For J. W. Olson, a two-story frame residence, 25 by 50 feet in size; to be built at Waveland avenue near Clark street; to have a stone basement, oak finish, mantels, sideboards, gas fixtures, furnace, etc.

Architect D. Mahaffey: For T. J. Durkinaw, a three-story flat building, 25 by 50 feet in size; to be built at Sawyer avenue; it will be of buff Bedford stone front, have hardwood interior finish, gas fixtures, mantels, sideboards, furnaces, electric wiring, etc. Also making drawings for a three-story store and flat building, 60 by 70 feet in size; to be erected at West Forty-eighth street; it will be of pressed brick with Bedford stone trimmings, have hard-

wood finish, gas fixtures, mantels, sideboards, laundry fixtures, furnaces, etc. For Rev. T. Snyder, remodeling residence at 279 Seminary avenue; plumbing, mantels, hardwood finish, sideboards, laundry fixtures, furnace, electric bells, speaking tubes, etc.

Architect Richard E. Schmidt: For N. H. Van Sicklen, a three-story residence, 30 by 80 feet in size; to be erected at 3812 Michigan avenue; it will be of cut stone basement, and the rest of buff Bedford stone with pressed brick; have slate roof, hardwood interior finish, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures, mantels, sideboards and consoles, electric light, cement floor in basement, heating, etc.

Architect Frederick Foehrige: Making plans for a pretty two-story, basement and attic residence, 26 by 60 feet in size; to be erected at Rogers Park; it will be of frame construction with buff Bedford stone basement, have hardwood interior finish, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, electric light, laundry fixtures, speaking tubes, electric bells, cement floor in basement, hot-water heating, etc. Also made plans for a two-story, attic and basement frame residence, 26 by 47 feet in size; to be erected at the northwest corner of Perry street and Norse avenue, for Albert Timm; to have a stone basement, hardwood finish, mantels, sideboards, gas and electric fixtures, the modern open nickel-plated plumbing, electric light, hot-water heating, etc.

Architect O. J. Pierce: Making plans for a two-story, basement and attic frame residence, 28 by 45 feet in size; to be erected at Oak Park for F. W. Jones; to have a Bedford stone basement, hardwood finish, mantels, sideboards, consoles, gas and electric fixtures, the best open nickel-plated plumbing, electric light, laundry fixtures, hot-water heating.

Architects I. K. & A. B. Pond: For George Yale, a two-story, basement and attic Colonial residence, 36 by 58 feet in size; to be erected at Kenosha; it will be constructed of brick, have elegant hardwood interior finish, mantels, sideboards and consoles, the best open nickel-plated plumbing, gas and electric fixtures, gas ranges and fireplaces, electric light, heating, etc.

Architects Brainard & Holzman: For A. L. Kemper, a handsome four-story and basement apartment house, 50 by 90 feet in size; to be erected at Edgewater; it will be of pressed brick with stone and terra cotta trimmings, have the interior finished in quarter-sawn oak and Georgia pine, the best of open nickel-plated sanitary plumbing, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures and driers, cement basement, marble wainscoting, mosaic floors, electric light, dumb waiters, steam heating, etc. For same owner, a two-story and basement apartment house, 50 by 50 feet in size; to be erected at 1885 West Harrison street; it will be of pressed brick front with buff Bedford stone trimmings, have the interior finished in oak and Georgia pine, mantels, sideboards, gas and electric fixtures, laundry fixtures, steam heating, etc. For H. J. Eldowney, a two-story, basement and attic frame residence, to be erected at Chicago Heights; it will have a stone basement, hardwood finish, gas fixtures, mantels, heating, etc.

Architects Harvey L. Page & Co.: For Professor Bulza, a handsome three-story residence, 36 by 66 feet in size; to be erected at Woodlawn avenue between Fifty-eighth and Fifty-ninth streets; it will be of pressed brick front with buff Bedford stone trimmings, French roof, all hardwood finish, mantels, sideboards and consoles, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures and driers, electric bells, speaking tubes, electric light, heating, etc.

Architect F. L. Wright: For R. A. Perkins a two-story and basement flat building, 25 by 70 feet in size; to be built at West Monroe street; it will have a buff Bedford stone front, oak interior finish, mantels, sideboards, gas fixtures, laundry fixtures, steam heating, etc.

Architect C. W. Rapp has let the contract for the two-story library, 85 by 160 feet in size; to be erected at Carbondale; it will be of pressed brick with stone trimmings, have hardwood finish, the necessary plumbing, steam heating, electric light, etc.; they are now putting in the foundations.

Architects Jones & Stoddard: For Mr. A. Brookover, a two-story and basement residence, 22 by 60 feet in size; to be built at Jackson boulevard near Central Park avenue; it will have a blue Bedford stone front, oak and Georgia pine interior finish, the modern sanitary improvements, gas and electric fixtures, hot-water heating, etc. For F. Burg, a three-story flat building, 25 by 70 feet in size; to be erected on Jackson boulevard near Western avenue; it will have a Bedford stone front, hardwood interior finish, mantels and sideboards, gas fixtures, furnaces, etc.

Architect D. L. Pentecost: For Frederick Kreinbrink, a two-story and basement flat building, 25 by 70 feet in size; to be built at Blue Island; it will be of buff Bedford stone front, have hardwood interior finish, mantels and sideboards, gas fixtures, furnaces, etc.

Architect Arthur Foster: Making plans for six two-story, basement and attic residences; to be erected at Forestville avenue near Forty-third street. They will have stone fronts, hardwood interior finish, mantels and sideboards, gas and electric fixtures, laundry fixtures, gas ranges, fireplaces, heating, etc.

Architect S. N. Crowen: For John Redmond, a two-story, basement and attic frame residence; 25 by 50 feet in size; to be built at Sixty-fourth and Green streets. It will have a stone basement, hardwood finish, mantels, sideboards, gas and electric fixtures, hot-water heating, etc. For George Cameron, remodeling residence at 2778 North Winchester avenue. Will put in new interior hardwood finish, mantels, sideboards, modern open plumbing, gas fixtures, hot-water heating, etc. Also making plans for a three-story flat building, 25 by 80 feet in size; to be erected at Larrabee street. It will be of pressed brick front, with buff Bedford stone trimmings, have oak and Georgia pine finish, the modern open plumbing, gas and electric fixtures, mantels, sideboards, laundry fixtures, electric bells, speaking tubes, cement floor in basement, furnaces, etc.

Architect M. E. Bell: Making plans for the courthouse, 68 by 100 feet in size; to be erected at Wheaton, Illinois. It will be of pressed brick with stone trimmings, have tile roof, hardwood interior finish, the modern sanitary improvements, gas and electric fixtures, marble, mosaic and tile work, steam heating, electric light, etc.

Architect Louis Martens: For Thomas Fitzgerald, a three-story store and flat building; 124 by 48 feet in size; to be erected at Twelfth and Laflin streets. It will have a buff Bedford stone front, and the side to be of stone up to the second story and pressed brick with stone trimmings for the remainder; the interior to be finished in hardwood and have the modern open plumbing, gas and electric fixtures, marble wainscoting, steam heating, etc. For M. George, a two-story flat building, 25 by 60 feet in size; to be built at La Salle street near Thirty-sixth street; to be of buff Bedford stone front, have hardwood finish, the modern sanitary plumbing, gas fixtures, mantels, gas ranges, heating, etc.

Architect J. M. Hoskins: For Thomas Higgins, a two-story flat building, 25 by 60 feet in size; to be built at 450 Troy street; it will have a Bedford stone front, oak and Georgia pine finish, gas fixtures, mantels, furnaces, etc.

Architect C. E. Brush: For James McLain, a handsome three-story apartment house, 120 by 60 feet in size; to be erected at One Hundred and Fifteenth street and Michigan avenue; it will have a pressed brick front with buff Bedford stone trimmings, the interior to be finished in oak and Georgia pine; have all the modern sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, speaking tubes, electric bells, electric light, steam heating, marble work, etc.

Architect C. M. Palmer: For Daniel Duffin, a four-story apartment house, 50 by 77 feet in size; to be erected at Forty-fifth street east of Grand boulevard; it will have a buff Bedford stone front, oak and Georgia pine finish, gas and electric fixtures, mantels and sideboards, open nickel-plated plumbing, gas ranges and fireplaces, electric light, steam heating, marble wainscoting, tile floors, etc.

Architect Theodor Lewandowski: For M. Webber, a two-story, basement and attic residence, 28 by 54 feet in size; to be erected at Lake View; it will be of pressed brick with Bedford stone trimmings, have hardwood interior finish, gas and electric fixtures, mantels, sideboards, heating, etc.

Architect Howard Van Doren Shaw: For B. G. Work, a handsome Colonial residence, 65 feet front; to be erected at Akron, Ohio; it will be of red brick front with white stone trimmings, have hardwood interior finish, mantels and sideboards, the best of modern plumbing, gas and electric fixtures, heating, etc.

Architects Patton & Fisher: For Messrs. Wean, Grosseup & Constock, a four-story and basement apartment house, 50 by 84 feet in size; to be erected

at Forty-third street near Grand boulevard; the basement and first story will be of buff Bedford stone and above this will be of pressed brick with Bedford stone trimmings, the interior to be finished in hardwoods, have the best of open plumbing, gas and electric fixtures, steam heating, electric light. Also preparing drawings for an eight-room school, 61 by 114 feet in size; to be erected at Oak Park; it will be two stories in height, of pressed brick with stone trimmings, have slate roof, hardwood interior finish, the necessary plumbing, heating, etc.

Architects Bishop & Colcord: Have begun excavations for the four-story and basement apartment house, 66 by 83 feet in size, to be erected at Forty-fifth street and St. Lawrence avenue; it will have a front of buff Bedford stone, hardwood interior finish, gas and electric fixtures, gas ranges and fireplaces, electric light, steam heating, mantels, sideboards, laundry fixtures, etc.

Architect E. D. Heinemann: For G. F. Davie, a two-story, basement and attic residence, 26 by 50 feet in size; to be erected at 6740 Wright street; it will be of pressed brick front with stone trimmings, have hardwood interior finish, mantels, sideboards, consoles, the best of open sanitary plumbing, gas ranges, fireplaces, etc.

Architects Murphy & Camp: For A. M. Johnson, a three-story flat building, 25 by 65 feet in size; to be built at 5828 Indiana avenue; it will have a stone front, oak and Georgia pine interior finish, mantels and sideboards, gas ranges and fireplaces, furnaces, etc.

Architect Adolph Druiding: Making plans for a handsome church, 52 by 115 feet in size; to be erected at Batavia, Illinois; it will be of stone construction with slate roof, have the interior finished in oak, stained-glass windows, plumbing, steam heating, gas fixtures, etc. Also made plans for renovating church at Fort Wayne; will put in new frescoing, new columns, new roof, new windows, new stations of the cross, new statues, gas fixtures, heating, etc.; the cost will be about \$40,000. Also finishing the Infirmary for the Sisters of Charity, at Mount St. Joseph near Cincinnati.

Architect S. M. Eichberg: For L. Karcher, a three-story residence, 25 by 75 feet in size; to be erected at Washington boulevard near Sacramento avenue; it will have a handsome front of buff Bedford stone, hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, gas ranges and fireplaces, hot-water heating, etc.

Architect E. M. Newman: For C. F. Gardner, a three-story and basement apartment house, 100 by 130 feet in size; to be erected at Seventy-third street and Madison avenue; it will have a Bedford stone basement and first story and above this will be of stone and pressed brick, hardwood finish, mantels and sideboards, gas ranges and fireplaces, the best of open nickel-plated plumbing, electric light, steam heating, etc.; it will contain twenty-four apartments of six and seven rooms.

Architects Wilson & Marshall: For A. W. Hester, a three-story and basement residence, 30 by 62 feet in size; to be erected at Junior terrace; it will be in the Colonial style, of pressed brick with Bedford stone trimmings, have elegant hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, gas ranges and fireplaces, hot-water heating, electric light, etc. Also making plans for a four-story and basement and attic apartment house, 210 by 240 feet in size; to be erected at South Park avenue and Fifty-first street boulevard, overlooking Washington park; it will be of Bedford stone and pressed brick, have the best of hardwood finish, mantels, sideboards, consoles, marble wainscoting, tile and mosaic floors, the best of modern plumbing, elevators, steam heating, electric light, gas ranges and fireplaces, etc.

Architects Handy & Cady: For E. M. Fuller, Madison, Wisconsin, a two-story store and office building, 81 by 91 feet in size; to be of pressed brick with terra cotta trimmings, have hardwood interior finish, modern plumbing, steam heating, electric light, etc. For F. M. Stewart, at Madison, a two-story, basement and attic residence, 35 by 50 feet in size; to have a stone basement and bowlders and plaster on the second story and dormers, hardwood finish, the best of modern improvements, gas and electric fixtures, etc.

Architects Cowles & Ohrenstein: For F. H. Barry, two residences, to be erected at the corner of Vincennes avenue and Forty-fifth place; they will have stone fronts and pressed brick sides, hardwood finish, the best of plumbing, steam heating; cost \$15,000. For Barry & Fallows, six two-story residences, 100 feet frontage and 65 feet deep; to be erected at Vincennes avenue and Forty-fifth street; they will have buff Bedford stone fronts, hardwood finish, mantels and sideboards, gas and electric fixtures, etc.; cost \$30,000.

Architects Hallstrom & Ockerland: For Mrs. C. Johnson, a four-story and basement flat building, 25 by 60 feet in size; to be built at 207 Sedgwick street; it will have a pressed brick and stone front, oak finish, mantels, gas fixtures, furnaces, etc.

Architect F. B. Townsend: For W. H. Ebbert, a three-story and basement residence, 26 by 73 feet in size; to be erected at 5128 Michigan avenue; it will have a handsome front of buff Bedford stone, hardwood finish, mantels, sideboards and consoles, gas and electric fixtures, steam heating, etc. For T. C. Richardson, at Evansville, Wisconsin, a two-story basement and attic frame residence, 36 by 50 feet in size; to have a stone basement, hardwood finish, the best of modern sanitary plumbing, gas and electric fixtures, gas ranges, furnaces, etc.

Architect Charles H. McAfee: For John M. Smyth, at Lake Geneva, a very handsome Colonial residence, 55 by 68 feet in size; to be of frame construction with stone basement and chimneys, elegant hardwood interior finish, mantels, sideboards and consoles, the best of open nickel-plated plumbing, electric light, hot-water heating, etc.

Architects Schlacks & Ottenheimer: For Mrs. S. Frank, a four-story store and flat building, 110 by 42 feet in size; to be erected at North avenue, near Larrabee street; it will have a buff Bedford stone front, copper bays and cornice, the best of modern plumbing, gas fixtures, mantels, steam heating.

Columbus, Ohio.—A dispatch from Upper Sandusky says: "The county commissioners this morning held a meeting and by a vote of two to one selected Yost & Packard of Columbus, as architects for the proposed new courthouse. Many plans were shown, but the general opinion was that the Yost & Packard plan was the best, displaying a structure with a large dome at each corner, entrance on four sides, and presenting most imposing appearance. It is guaranteed to cost not to exceed \$150,000.

Denver, Colo.—Architect W. E. Fisher: For E. E. Rost, two-story business block; brick; size 37½ by 79 feet; cost \$5,000. For city of Denver, two-story park pavilion; frame and brick; cost \$12,000. For E. E. Chase, two-story dwelling; brick; size 29 by 49 feet; cost \$6,000. For C. H. Benedict, two-and-one-half-story dwelling; brick; size 29 by 48 feet; cost \$6,000. For Agnes J. White, two-story business block; brick; size 22 by 75 feet; cost \$5,000.

Edbrooke Architectural Company: For Symes Establishment, three alterations to store fronts; cost \$10,000. For Fleming Brothers, two-and-one-half-story dwelling; brick; cost \$9,000. Forty-four permits issued, \$69,500.

Detroit, Mich.—Architects Baxter & Hill: For James M. Munro, four two-and-one-half-story frame residences on brick foundations; hardwood finish; average size, 26 by 42 feet; cost \$13,000. For Tuller & Van Husan, pressed brick residence, cut stone trimmings, slate roof; heated with hot water; cost \$7,500.

Architects Mortimer L. Smith & Son: For Ferry Avenue Baptist Society, brick chapel with slate roof and stained glass windows; size, 40 by 55 feet; cost \$5,000.

Architect Edward Van Leyen: For Charles A. Chidsey, two-story frame residence; cost \$3,500.

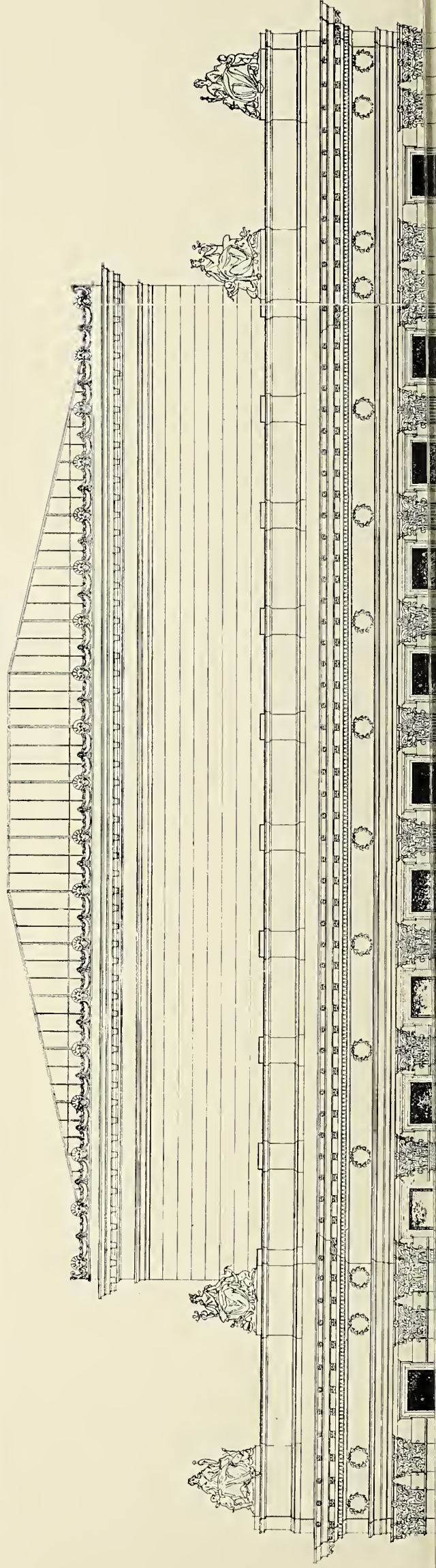
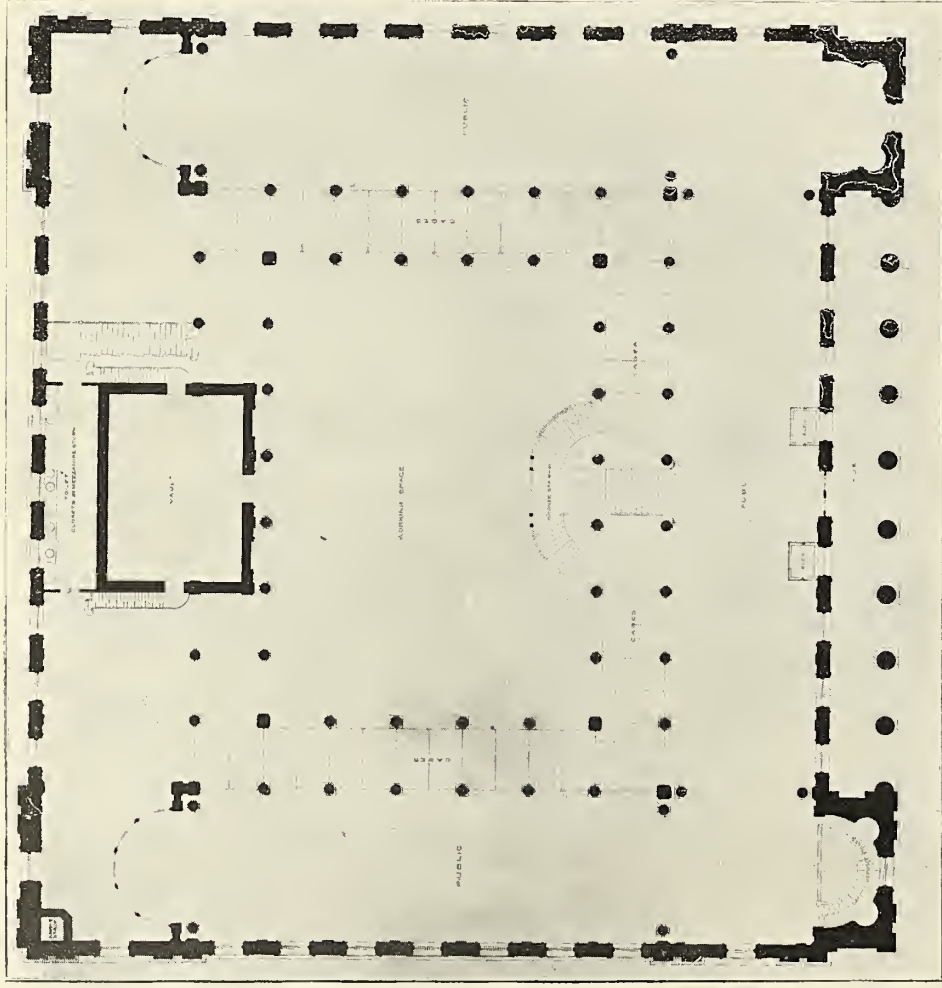
Architect Gustav A. Mueller: For Jacob Hock, three-story brick and stone building, and remodeling adjoining building; cost \$11,500.

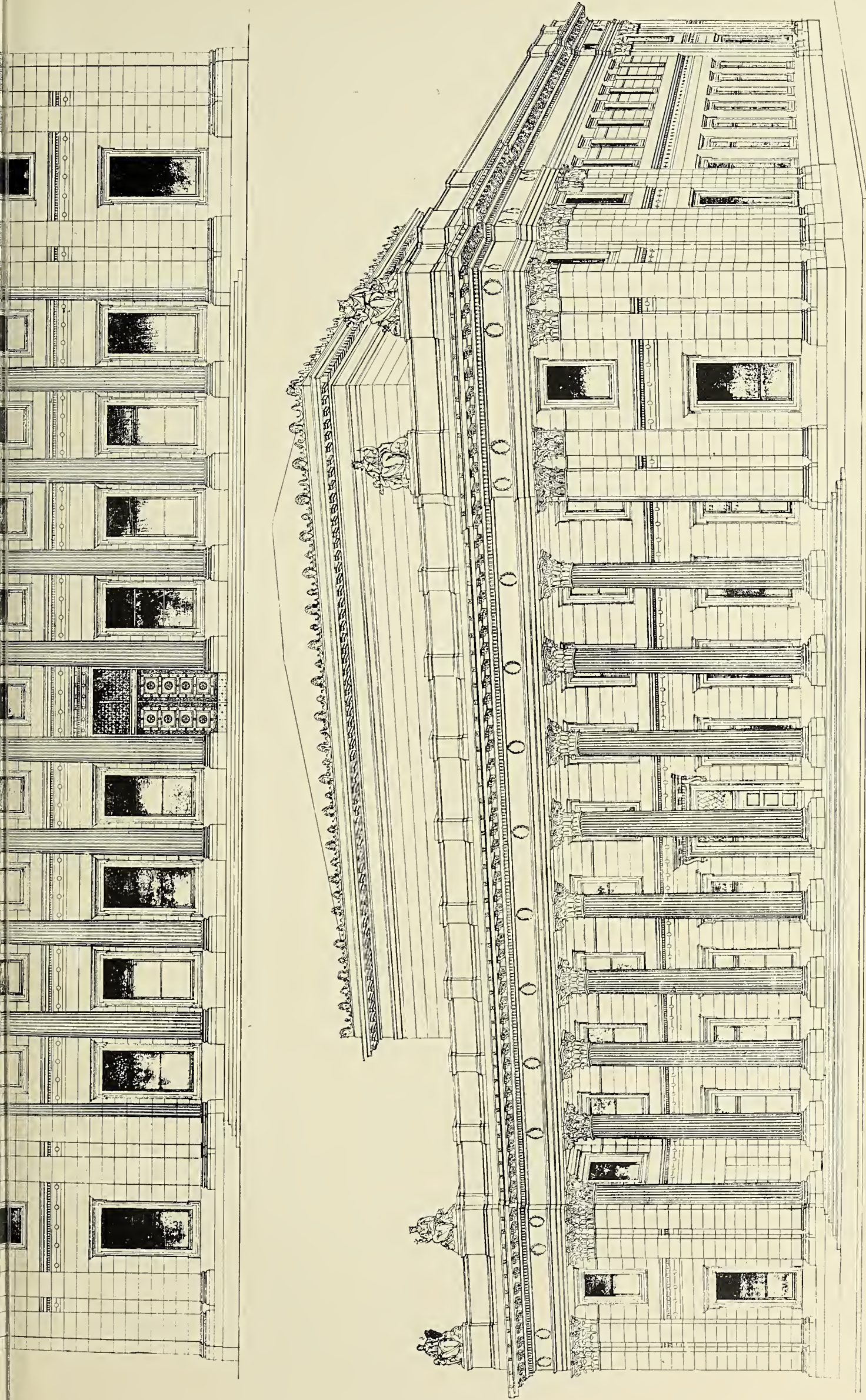
Fort Wayne, Ind.—B. S. Tolan has been appointed architect for a \$500,000 courthouse for Allen county, to be built in Fort Wayne, Indiana.

Minneapolis, Minn.—Architect A. L. Dorr: For John King, flat building; size, 84 by 96 feet; three stories; to be of pressed brick with stone trimmings; cost \$20,000.

Architects Orff & Joralemon: High School building for Decorah, Iowa; size, 76 by 140 feet, two stories; brick and stone trimmings; cost \$25,000.

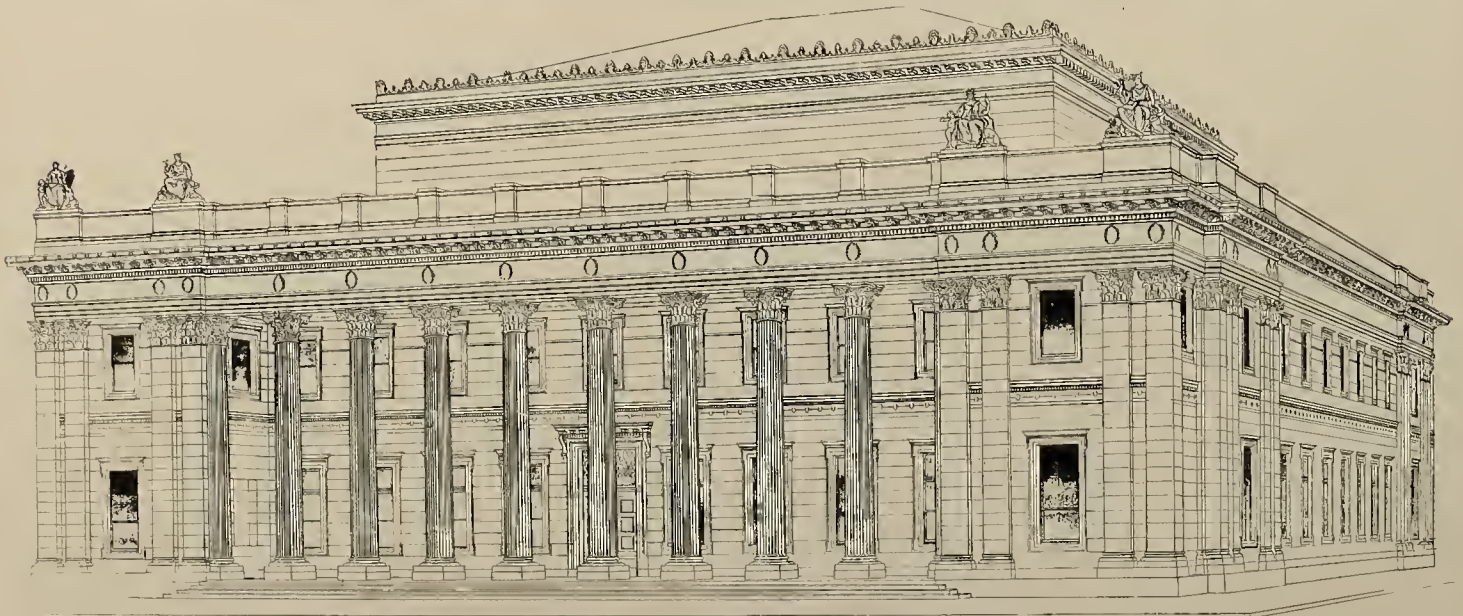
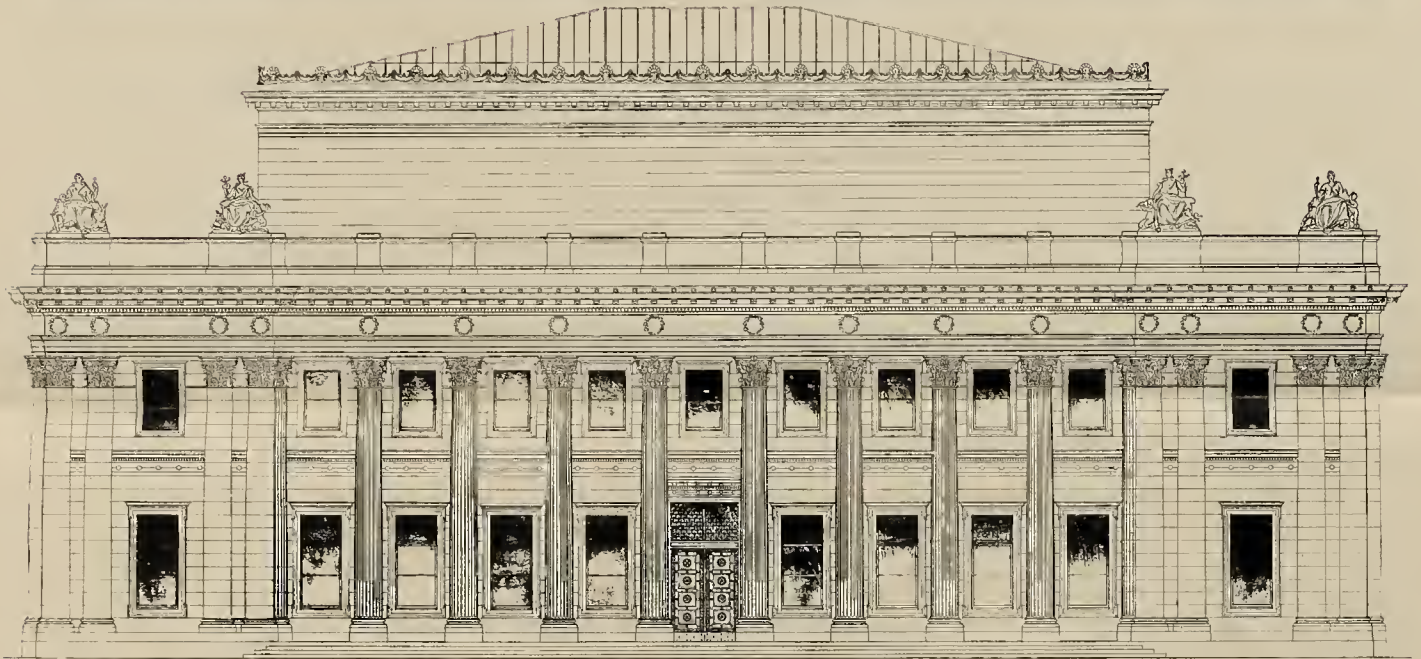
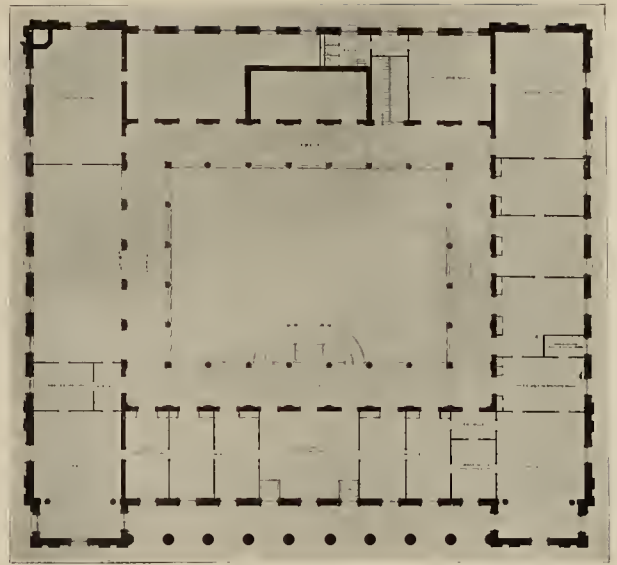
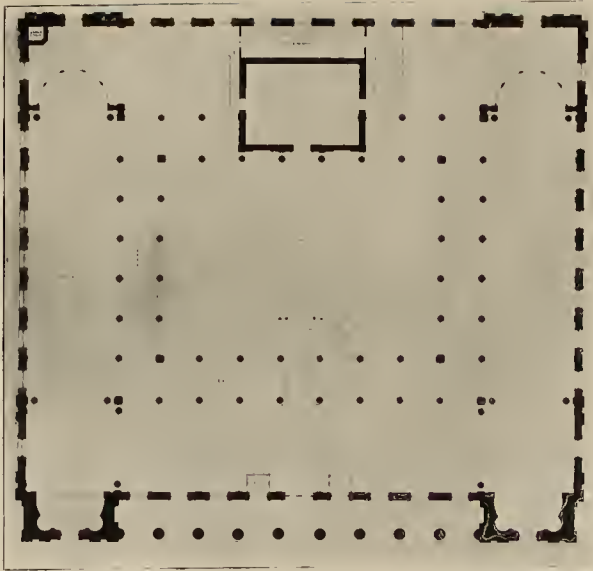
Architects Warren H. Hays and Charles S. Sedgwick: Westminster Presbyterian Church; size, 165 by 165 feet; pressed and ornamental brick with stone trimmings; cost \$85,000.





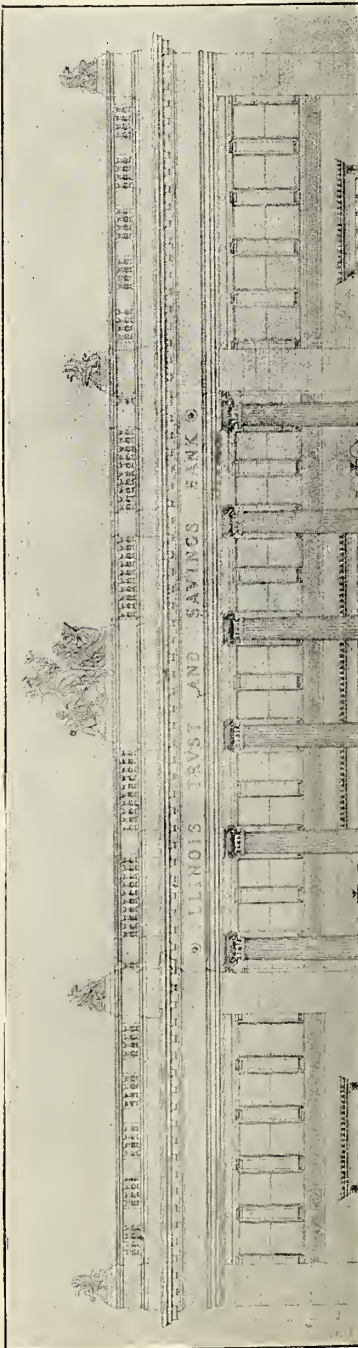
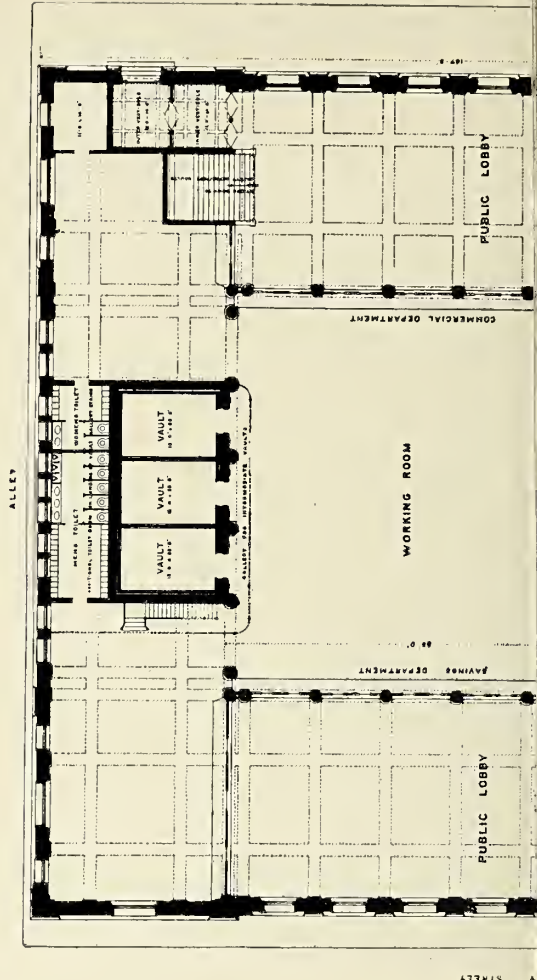
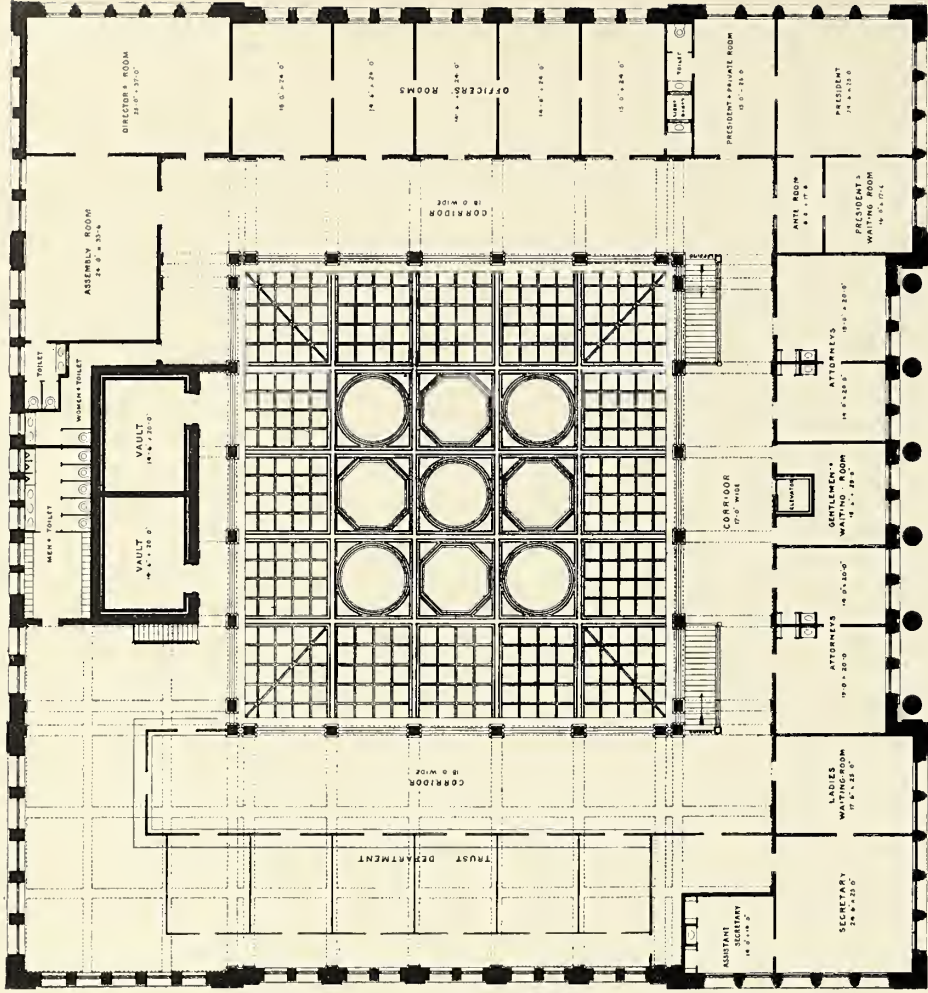
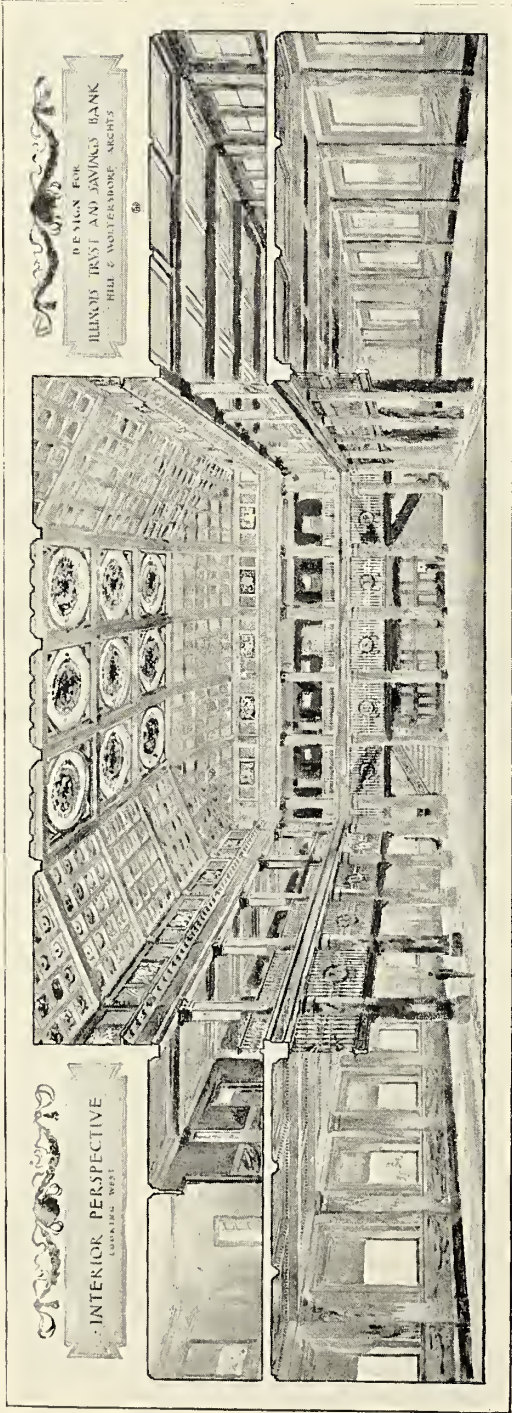
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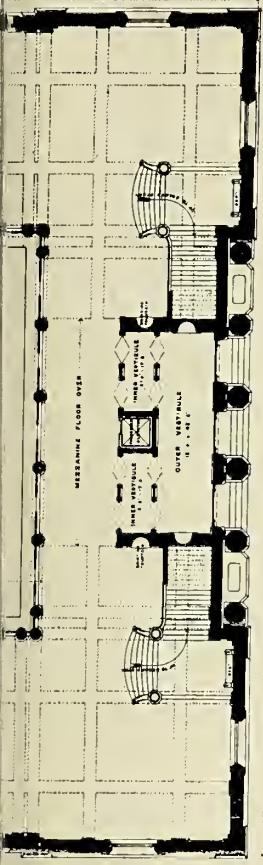
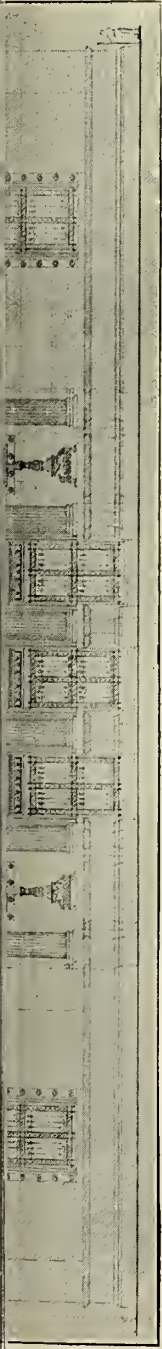
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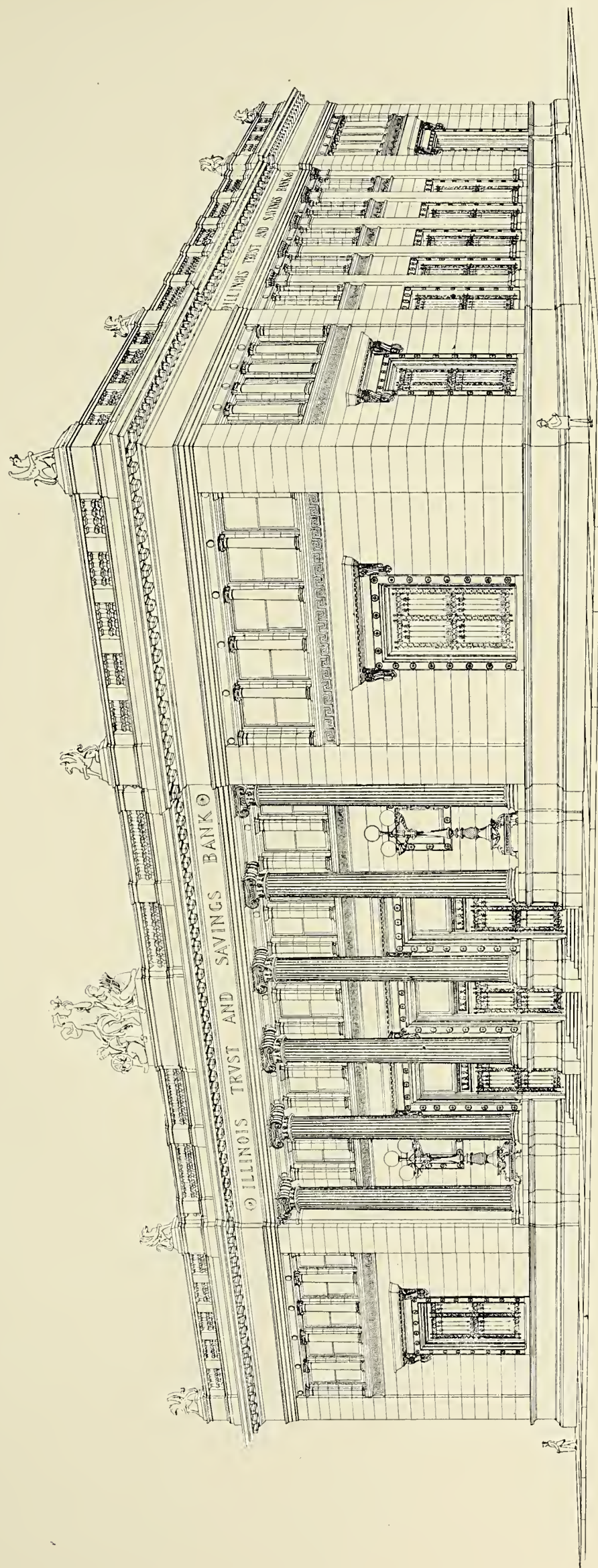
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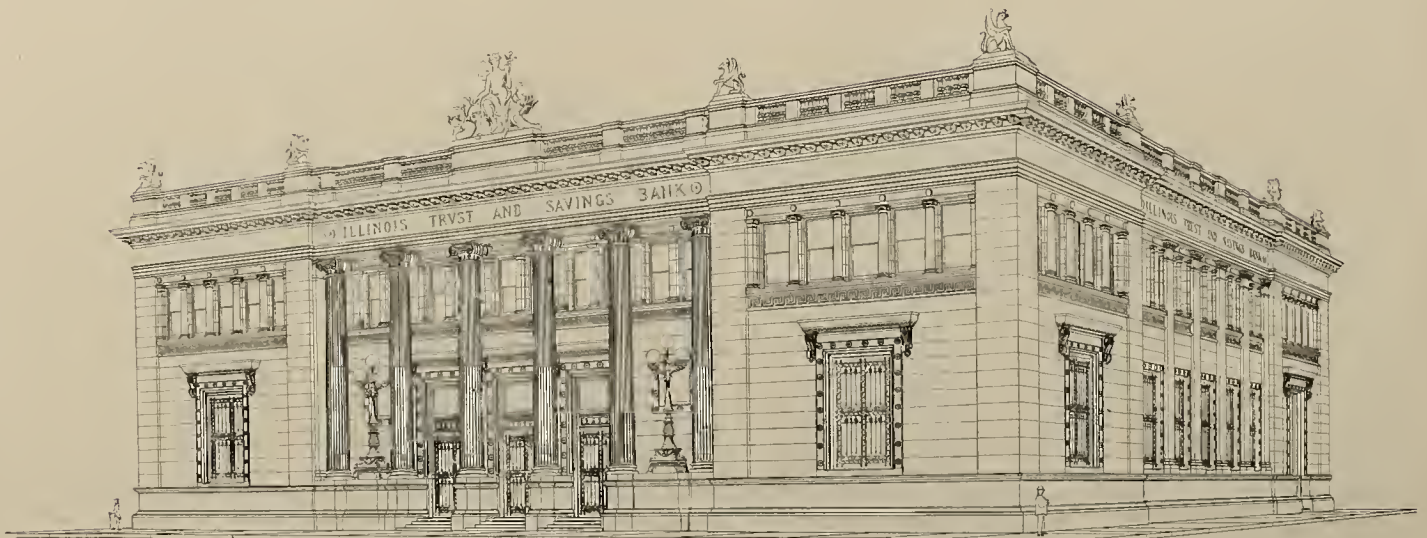
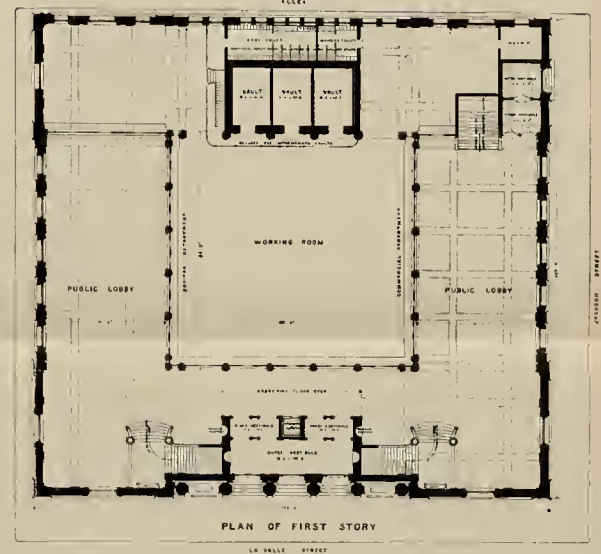
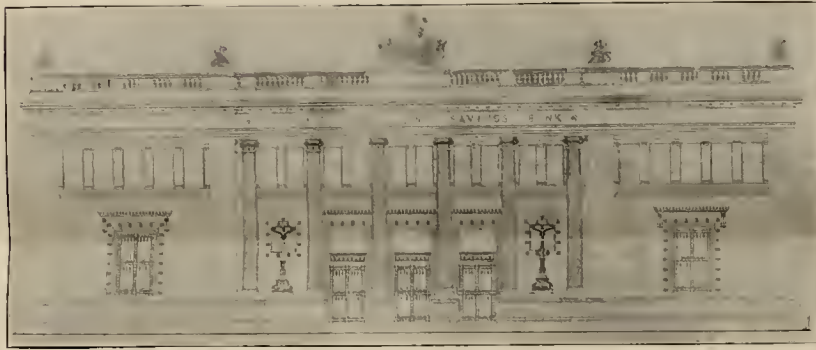
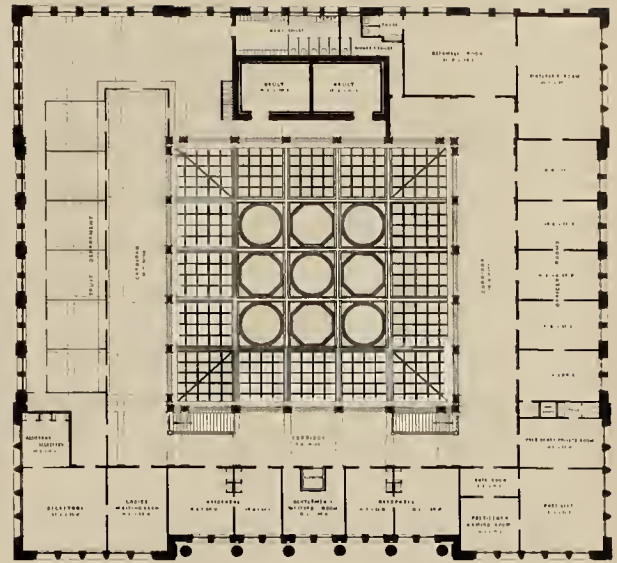
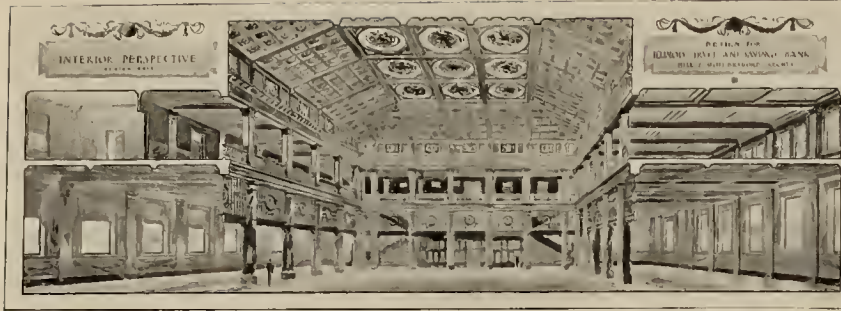
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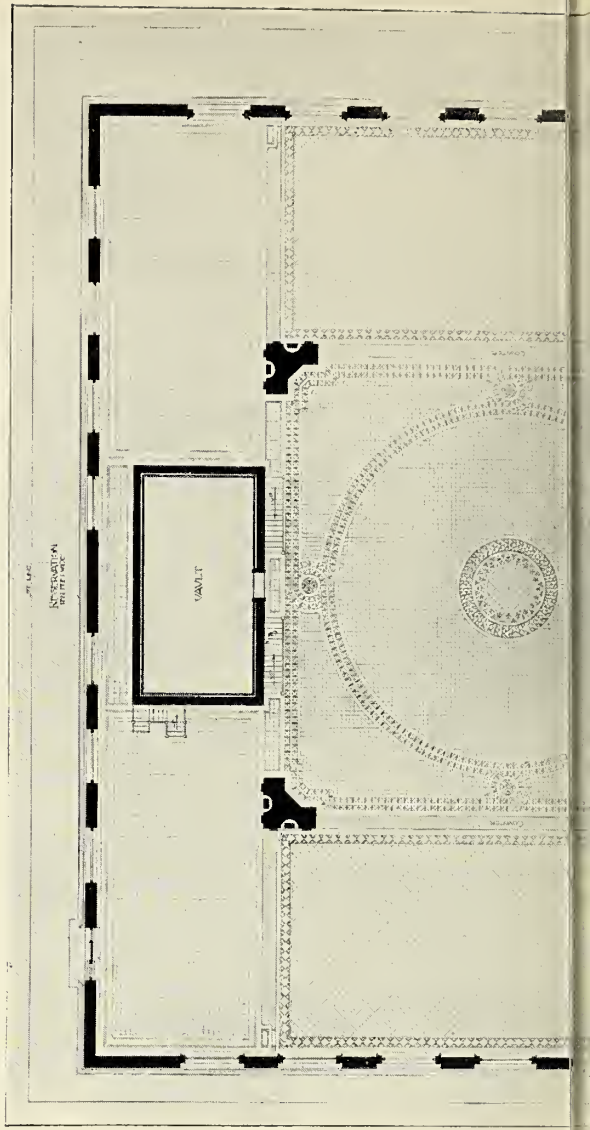
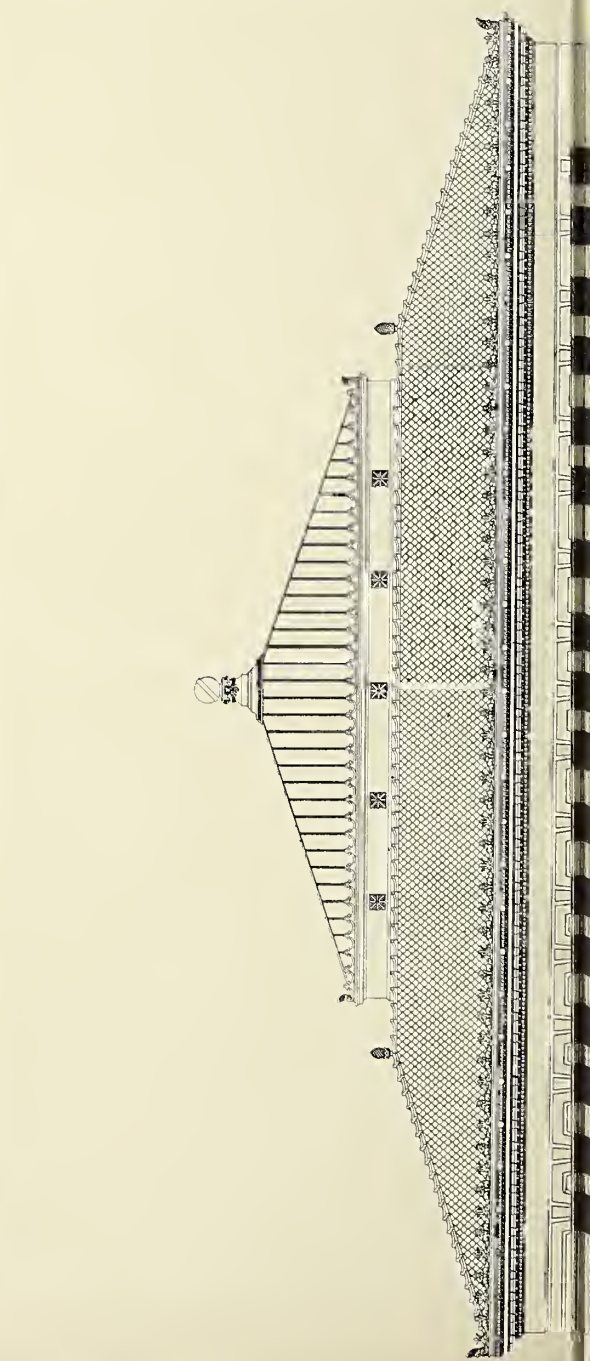
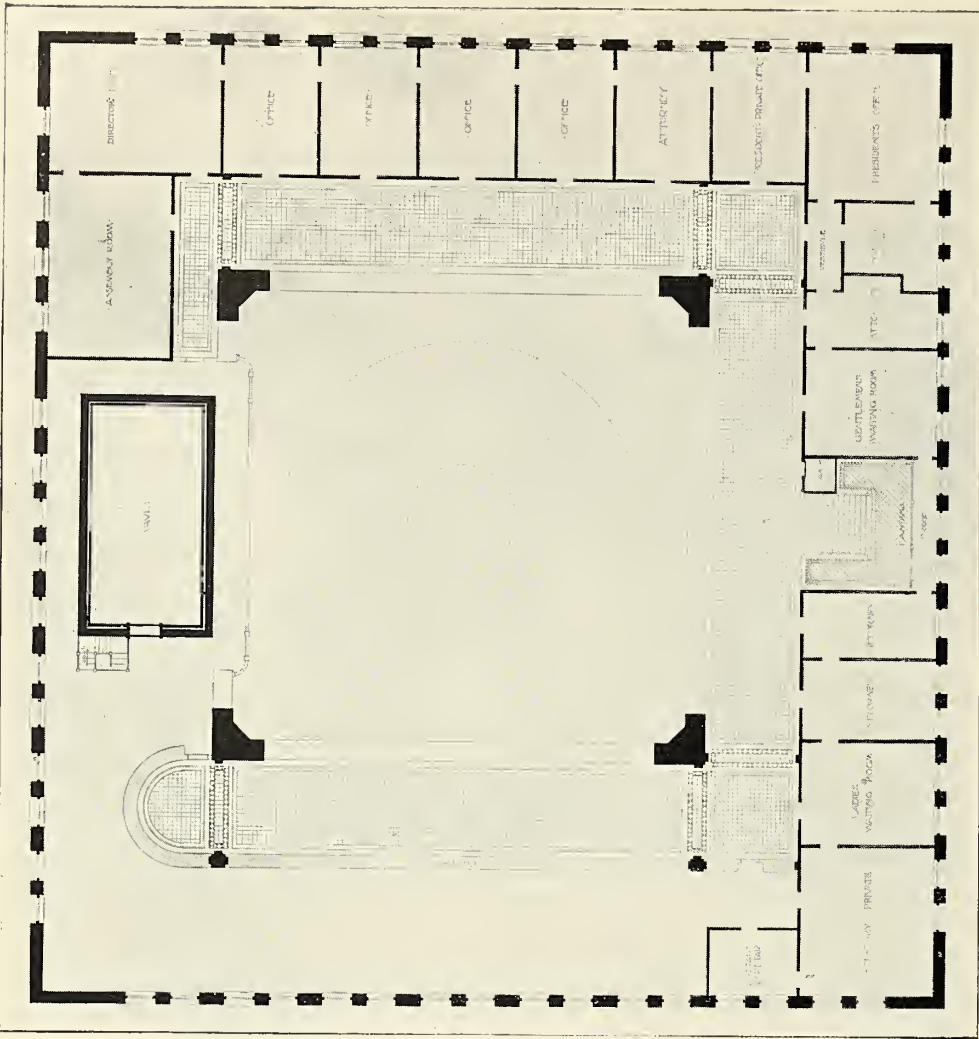
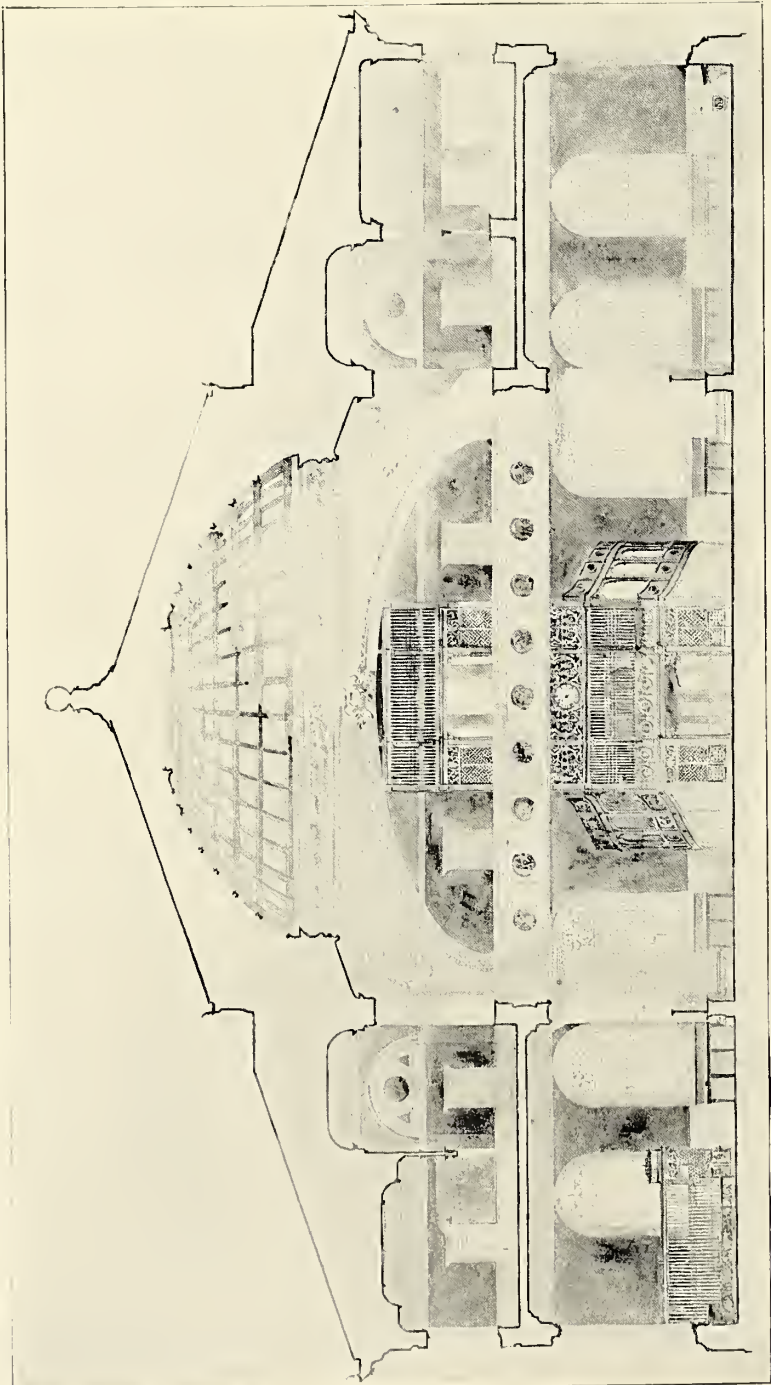
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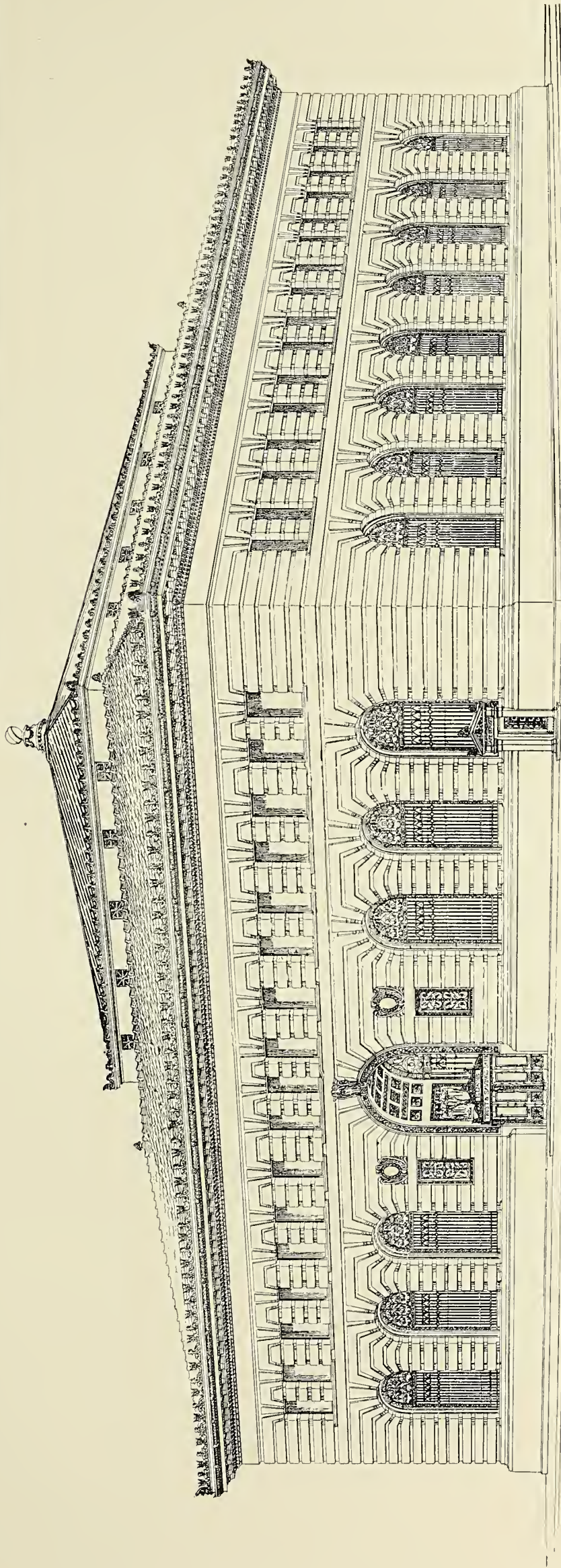
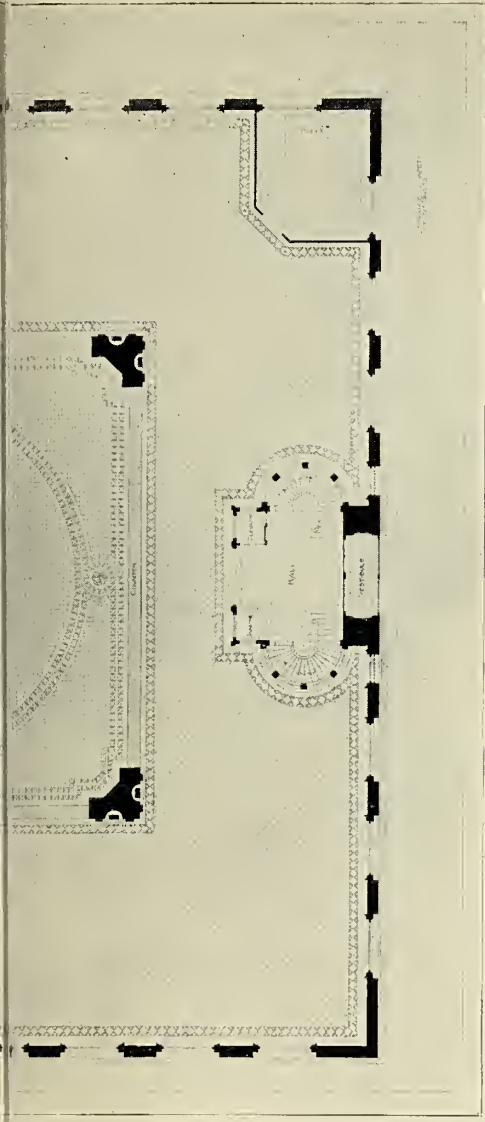
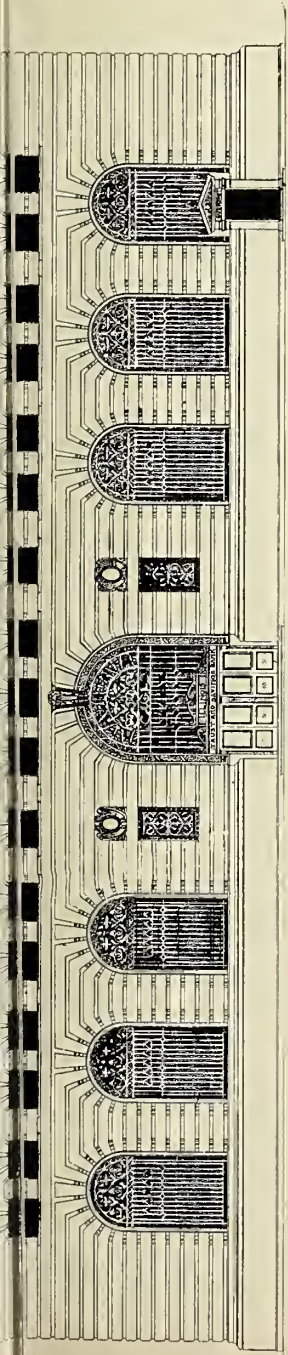
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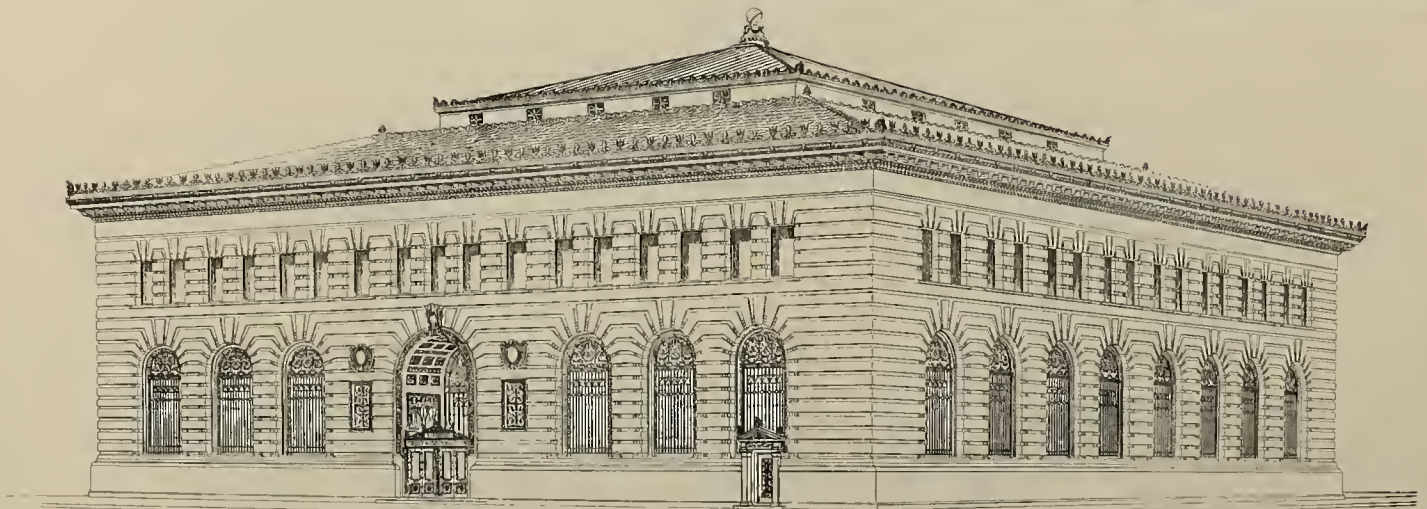
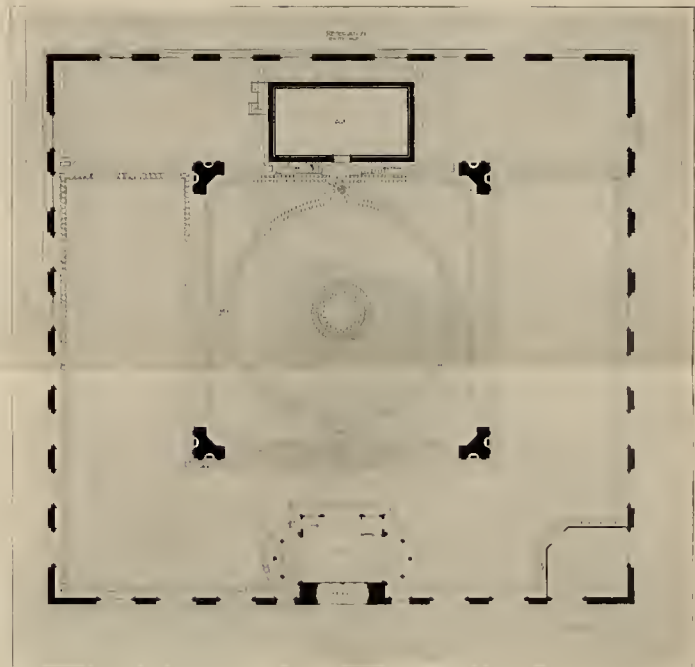
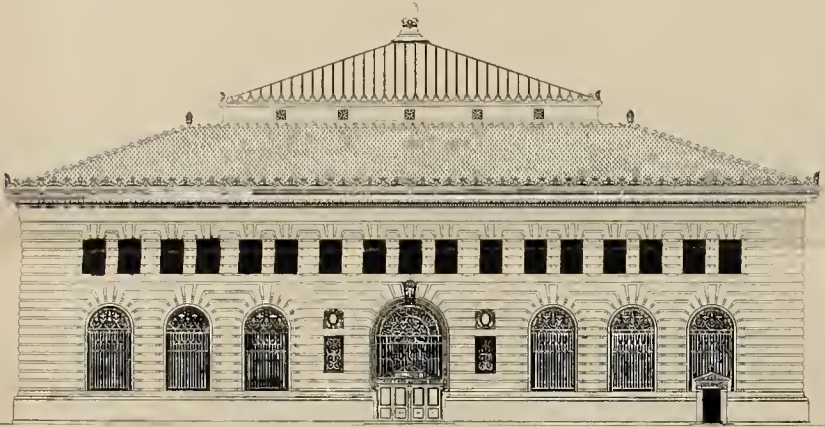
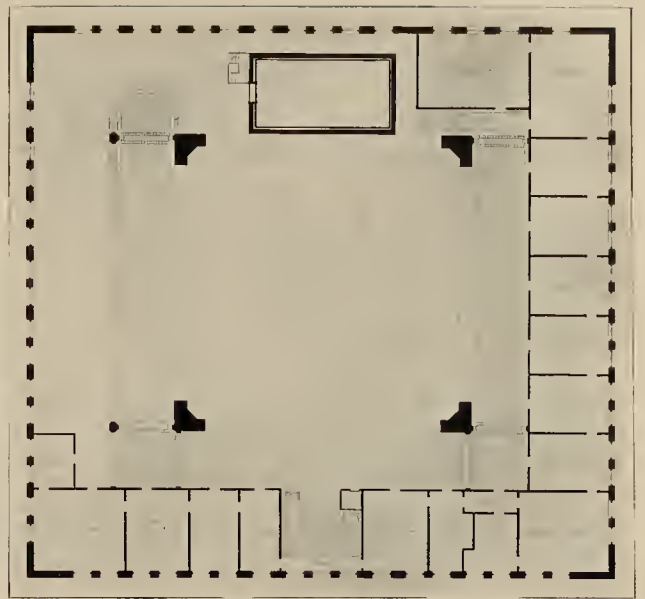
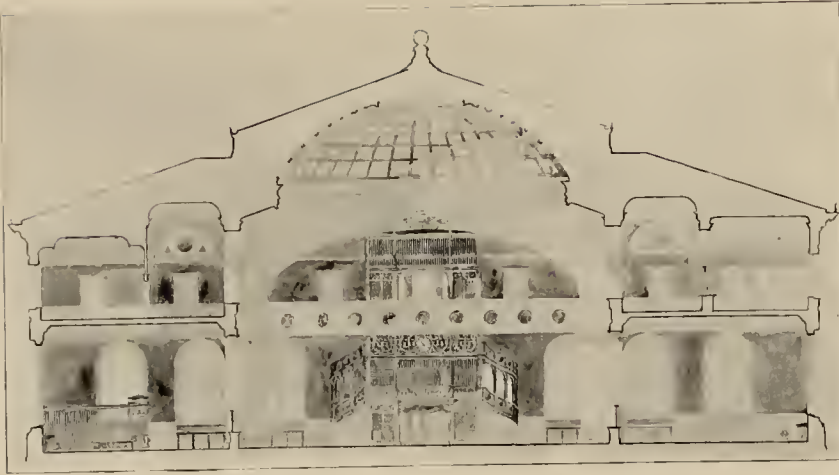
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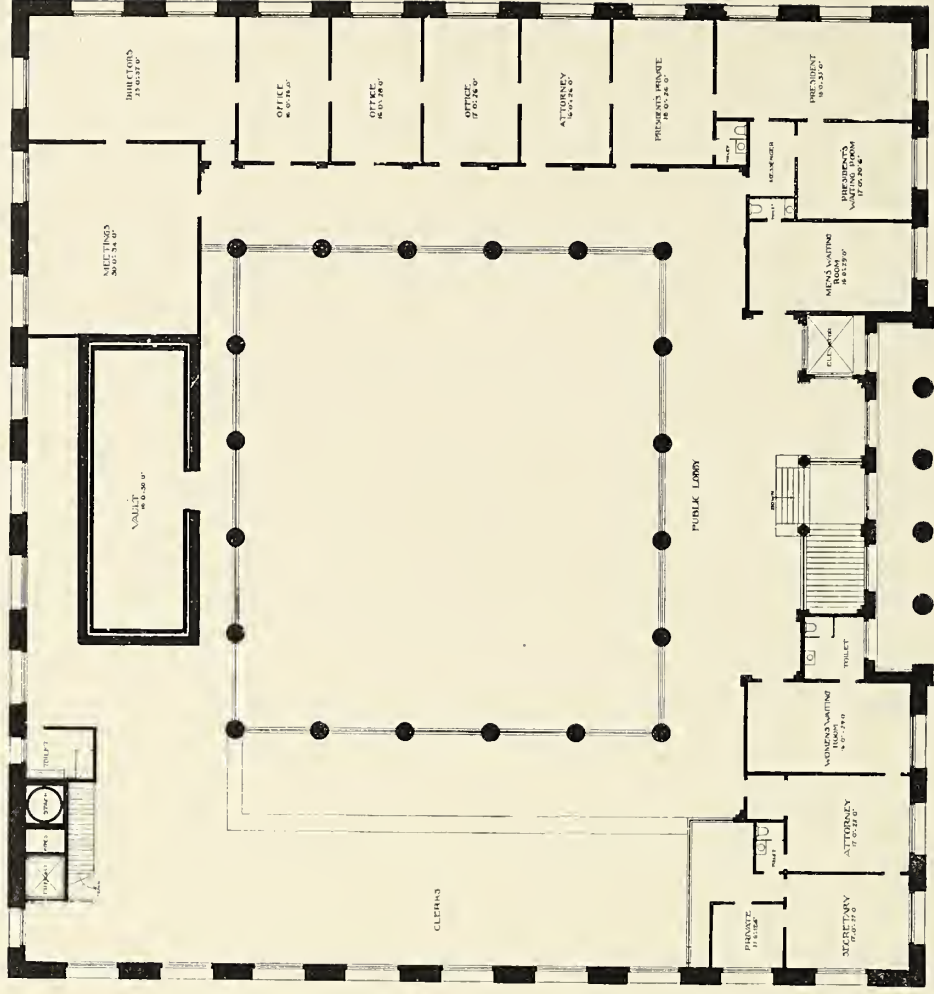
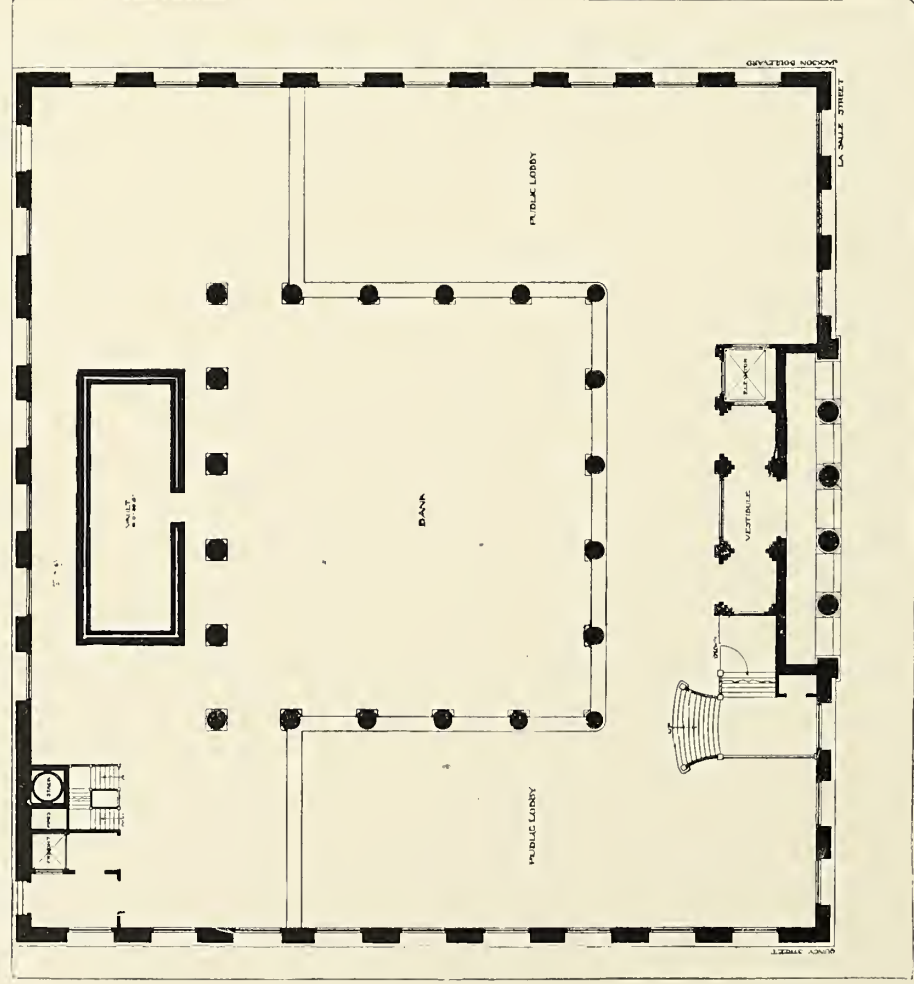
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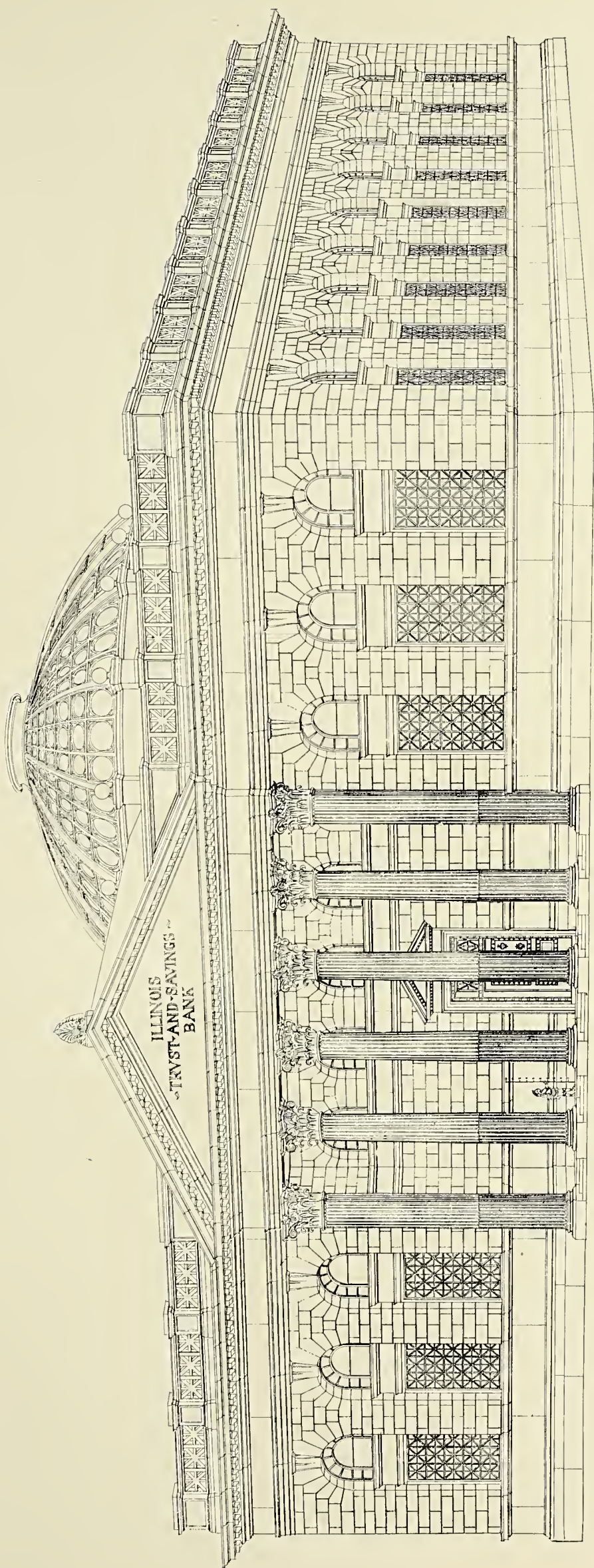


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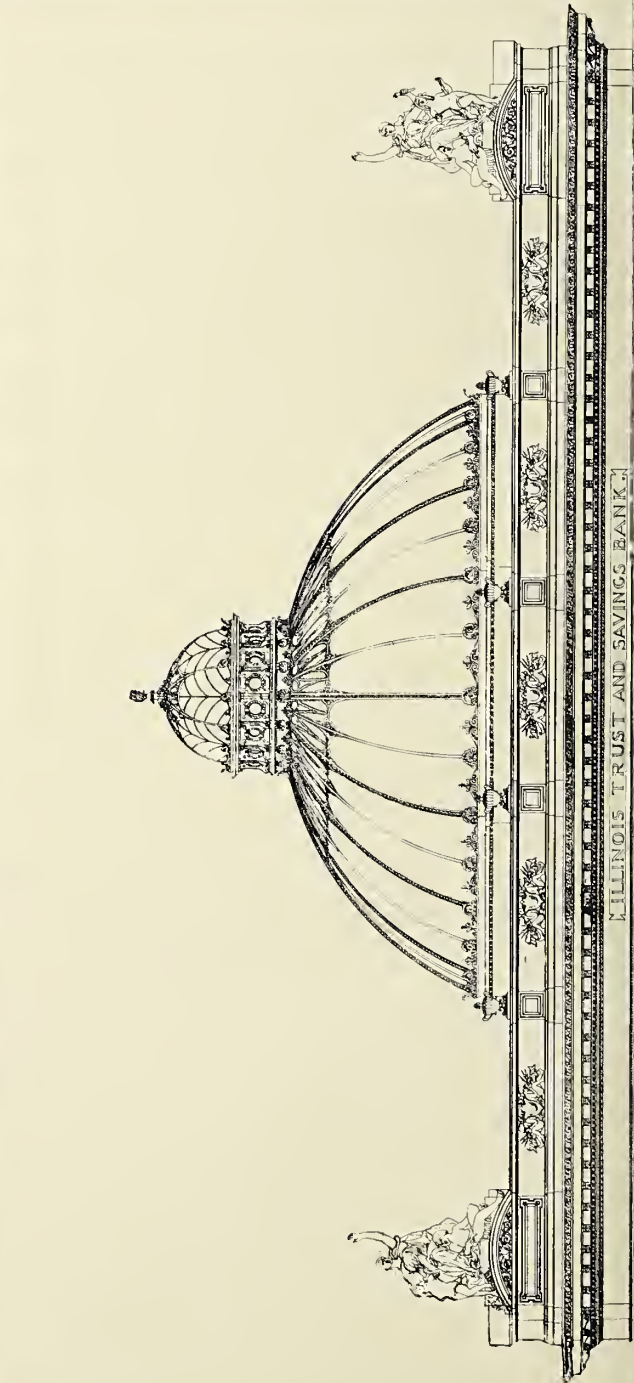
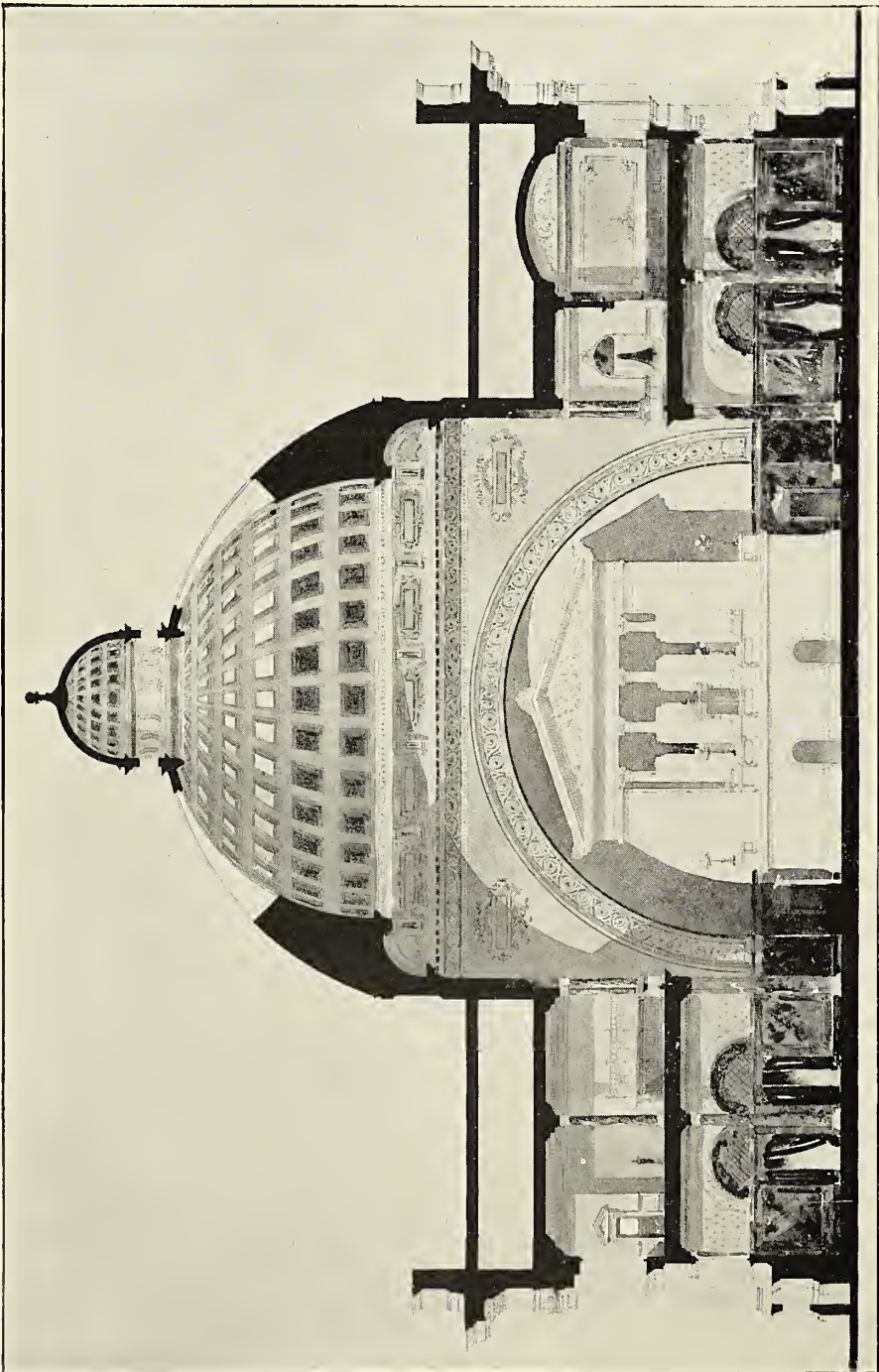
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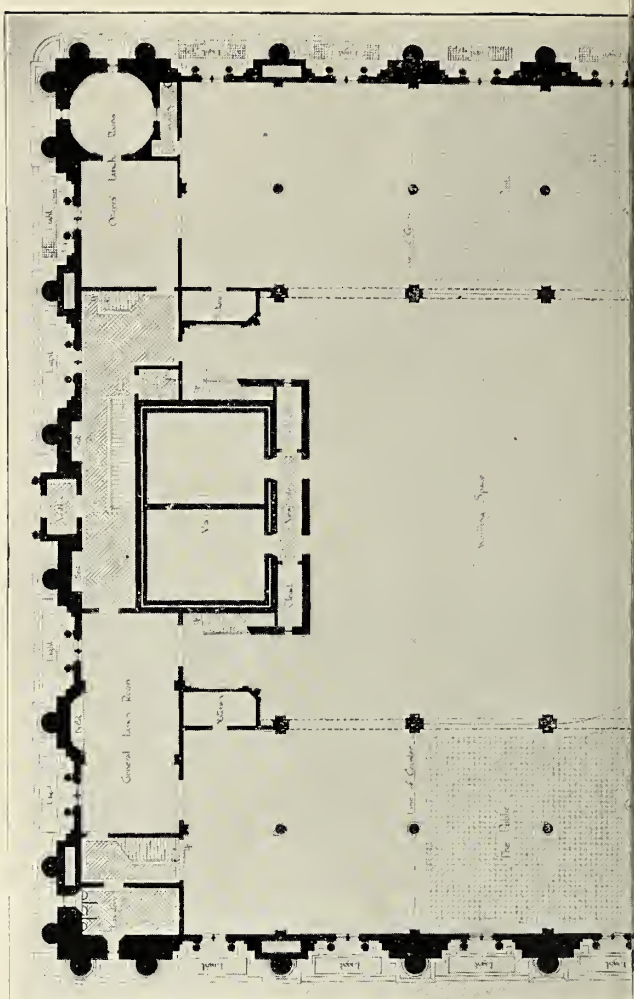
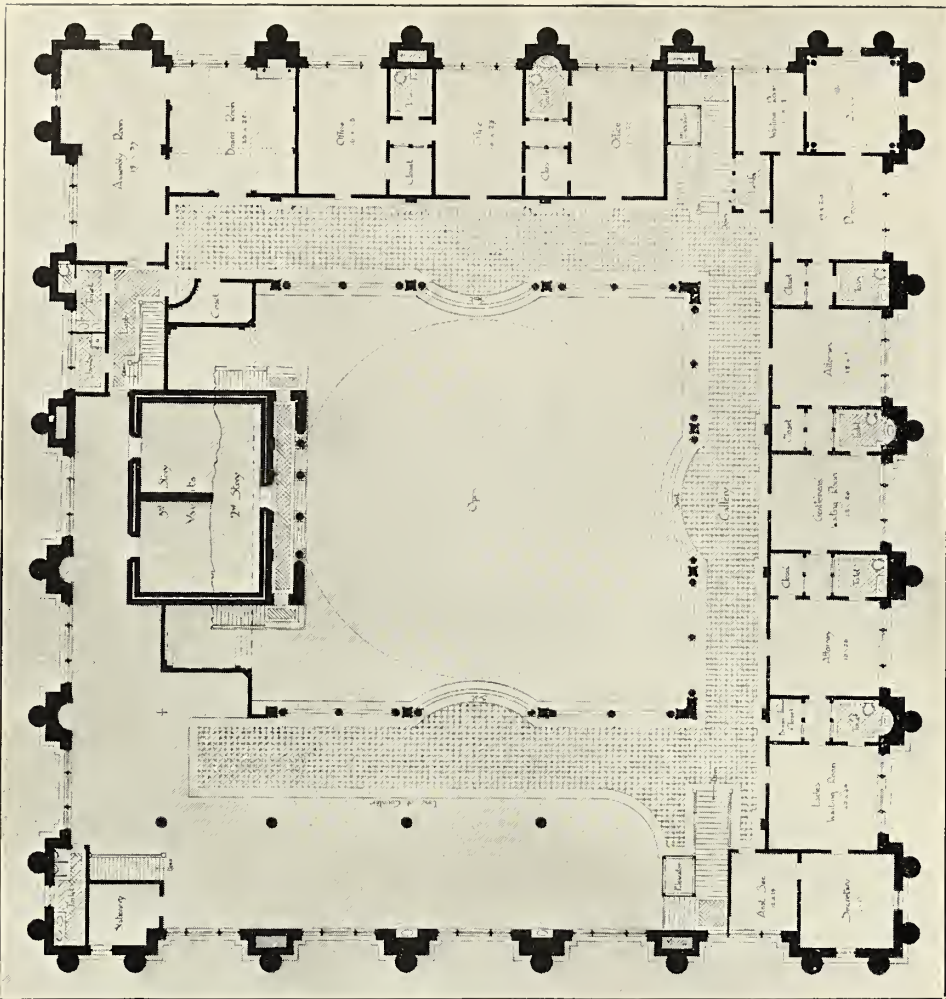


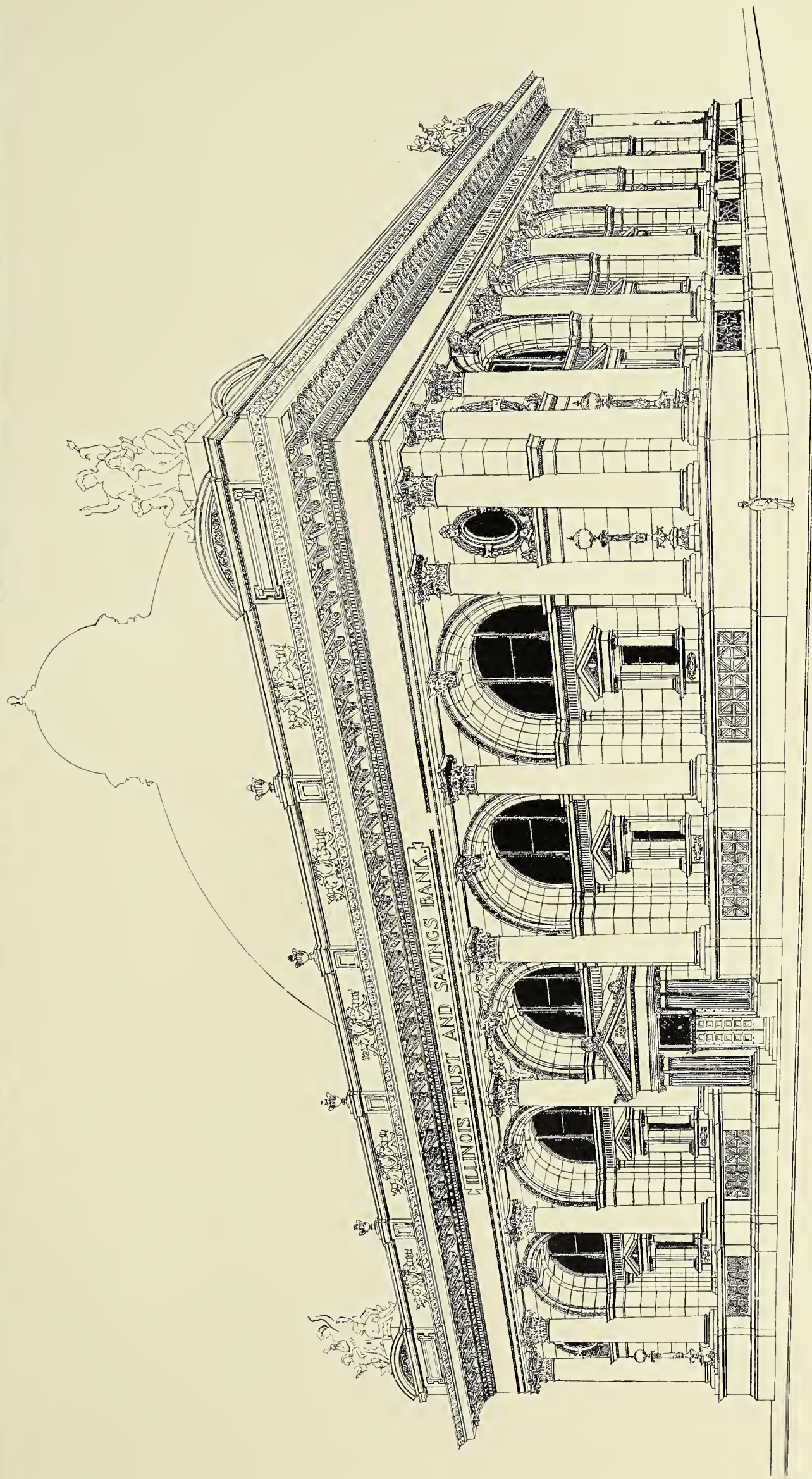
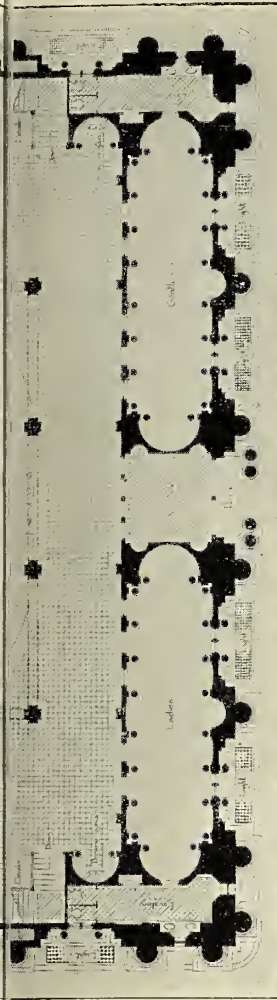
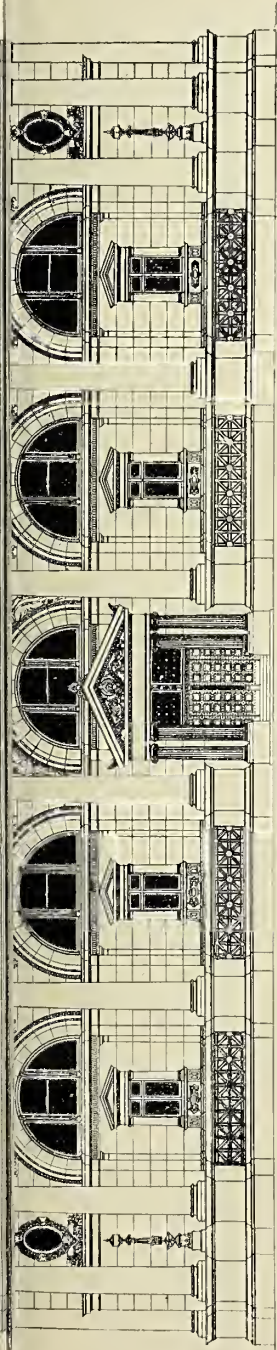
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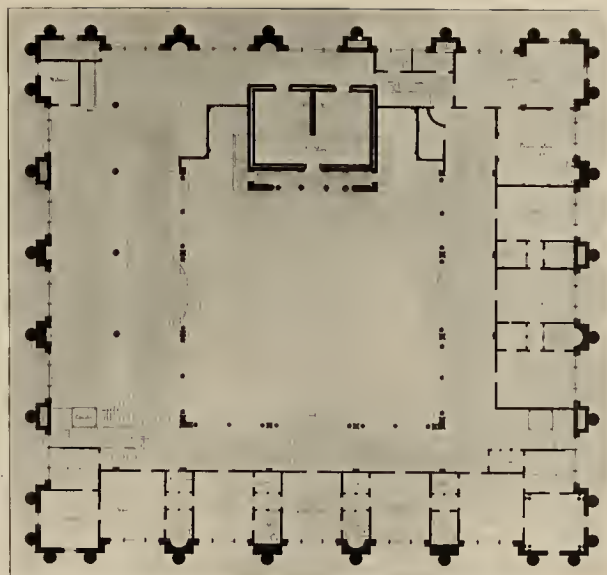
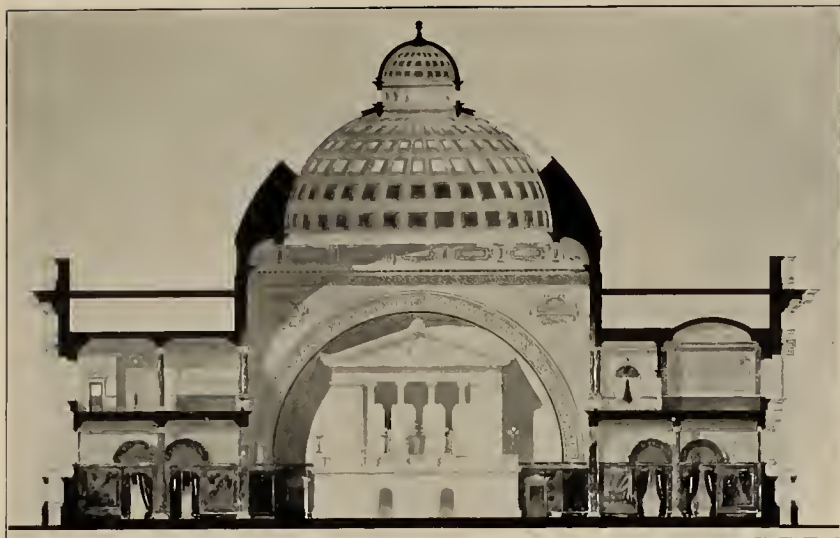
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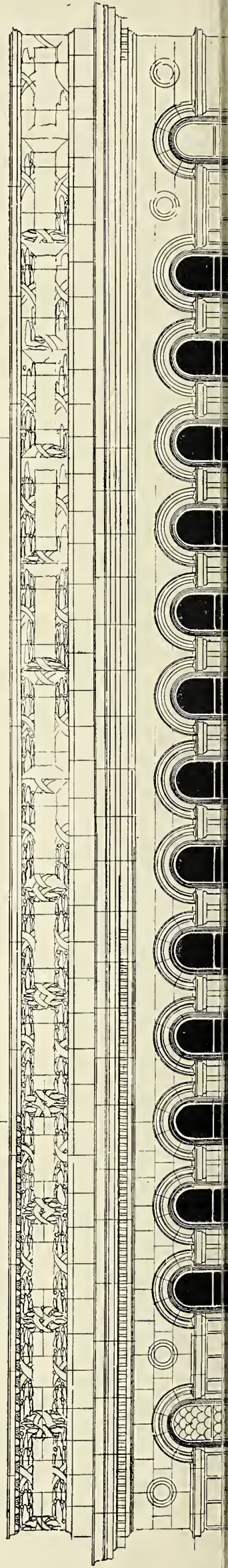
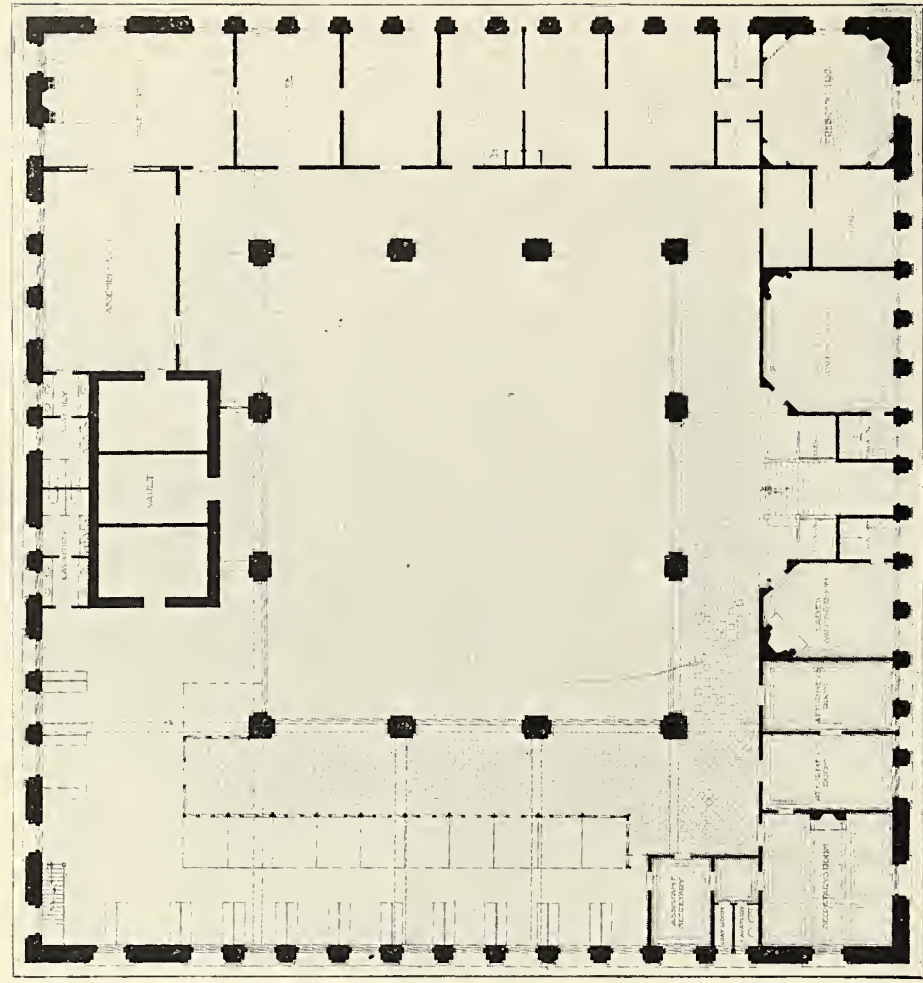
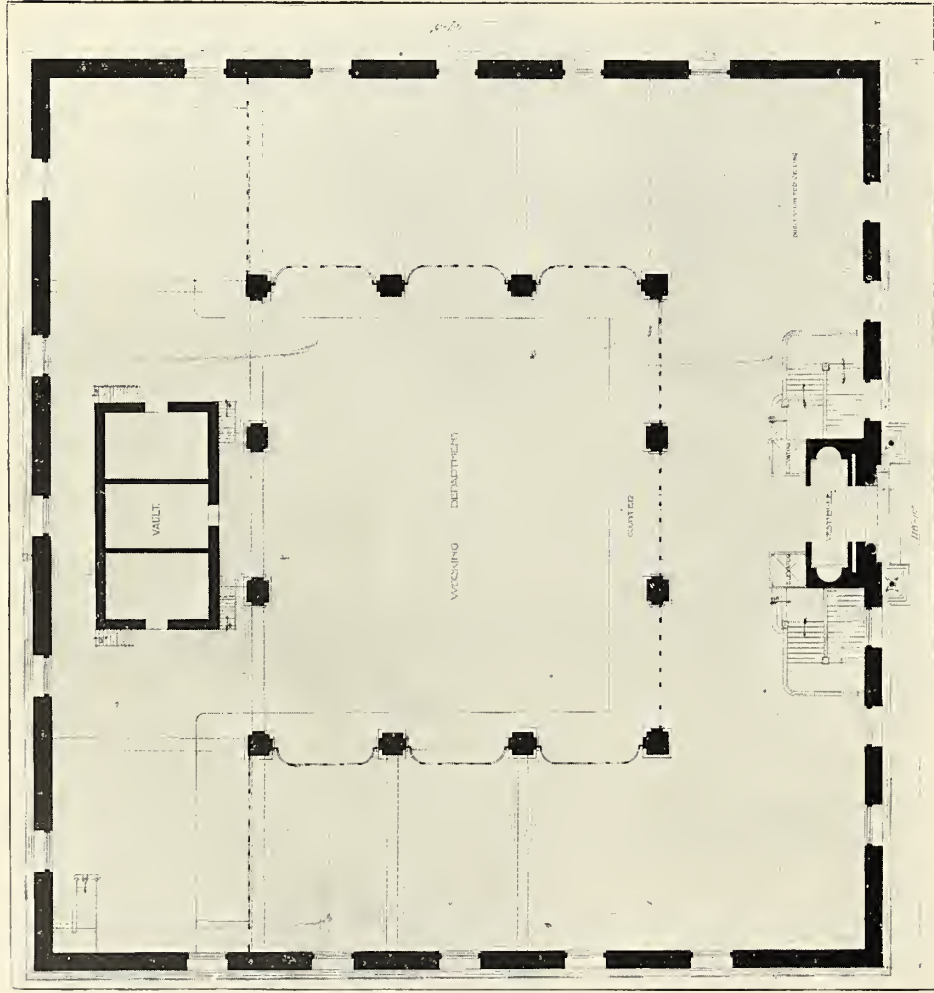
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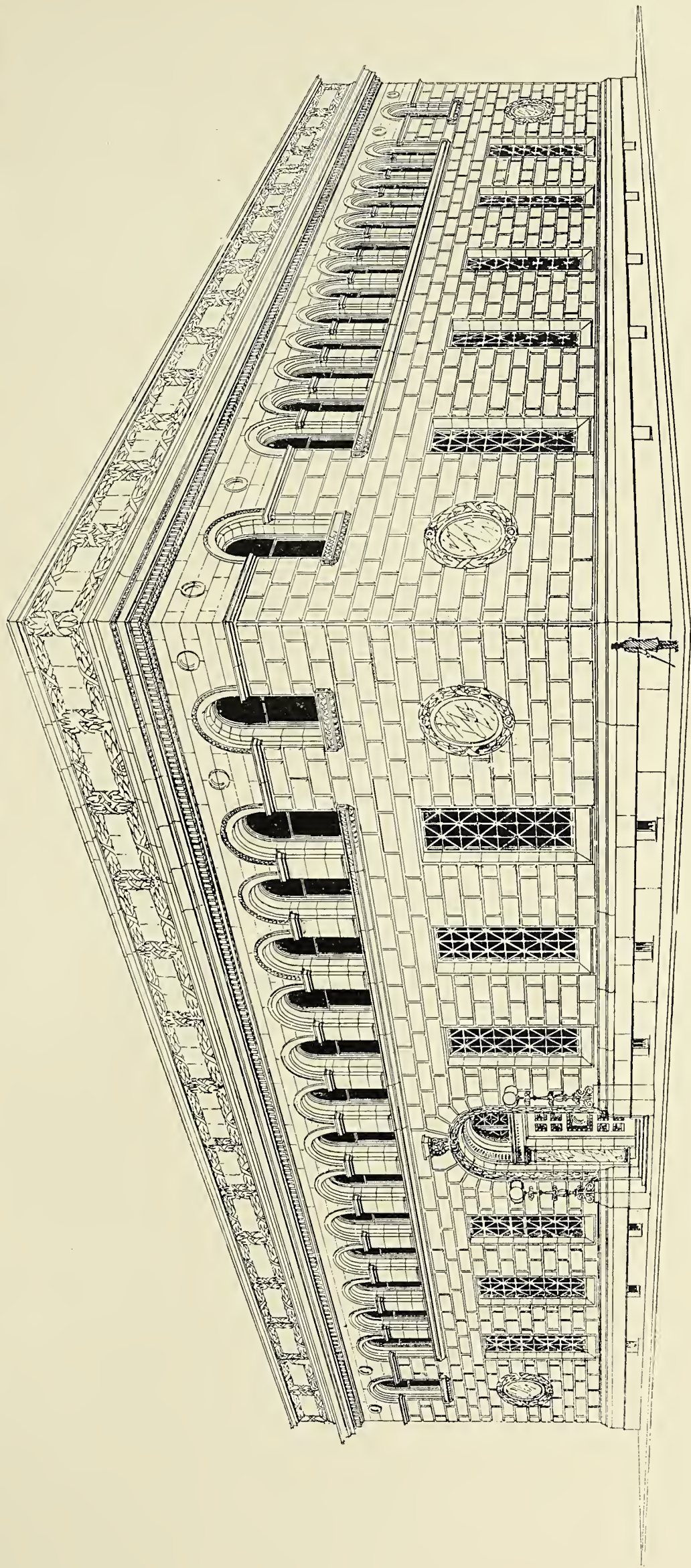
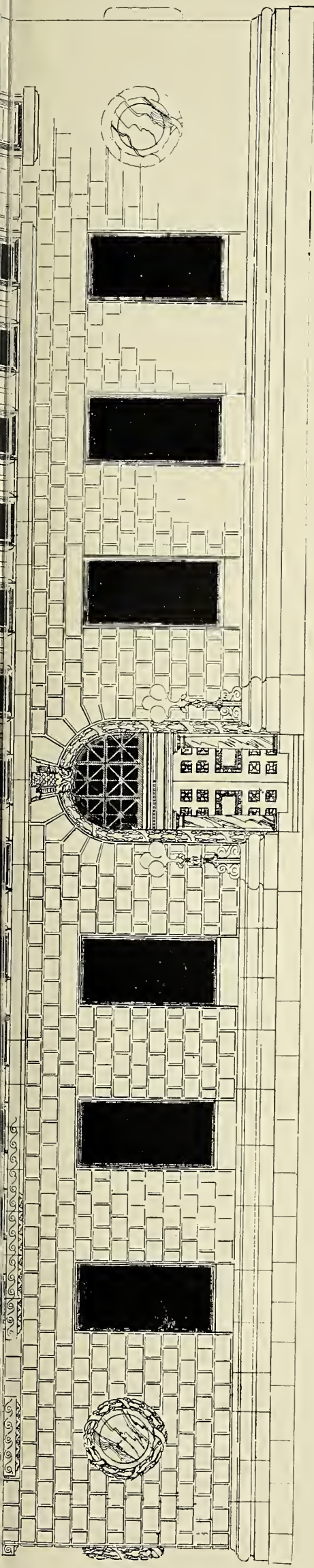
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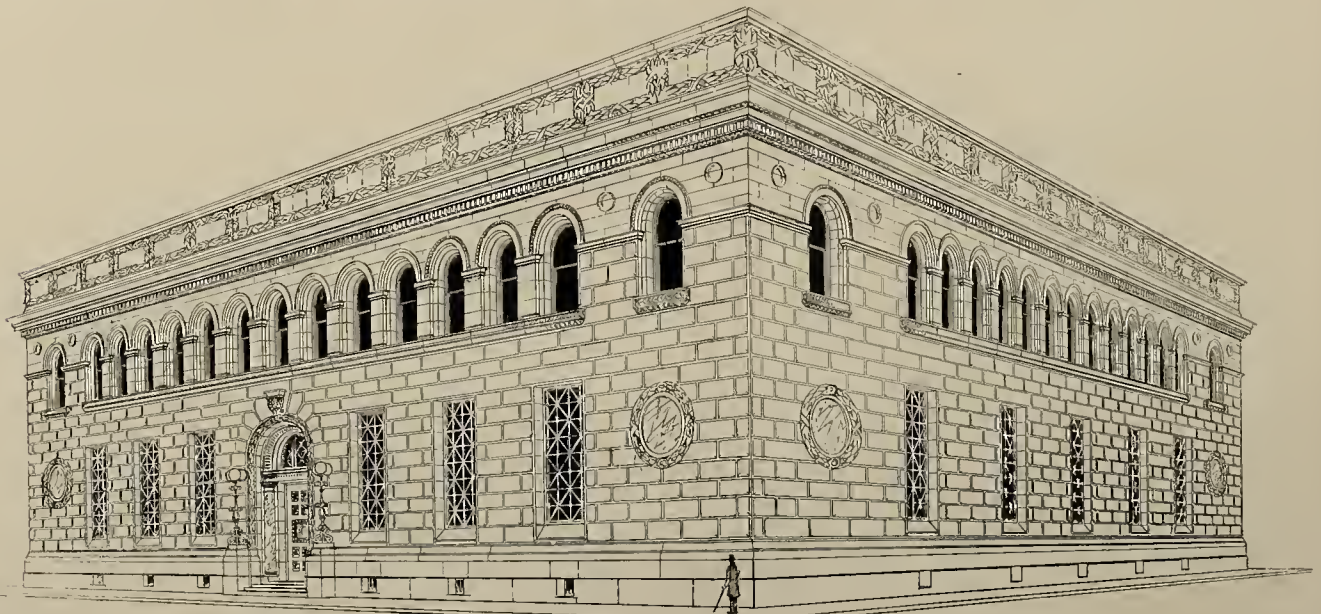
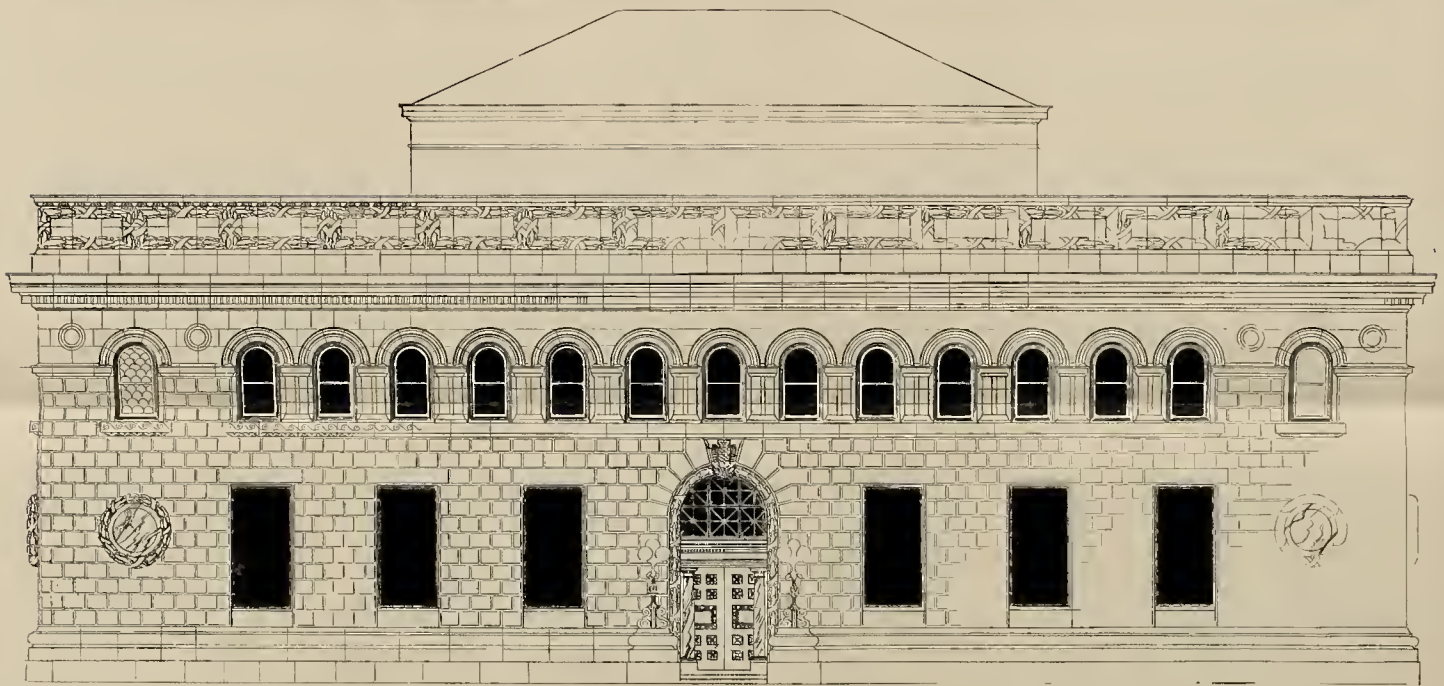
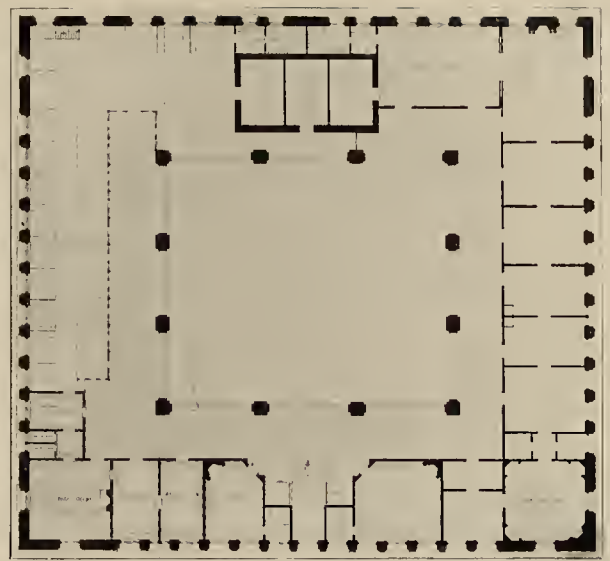
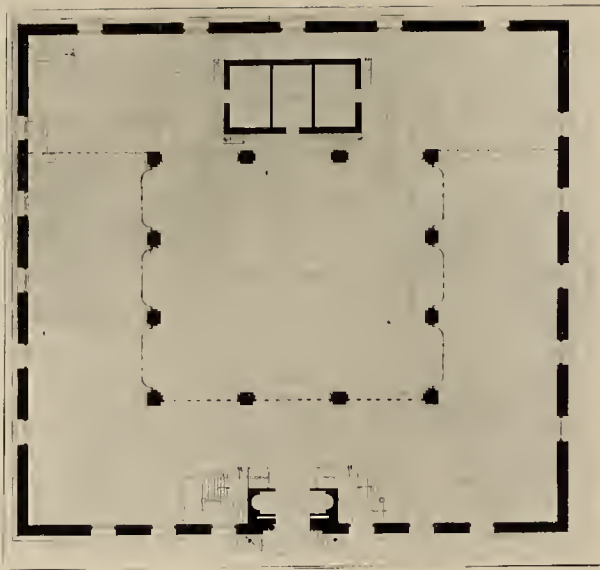
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THE INLAND ARCHITECT AND NEWS RECORD

Vol. XXVII.

JULY, 1896.

No. 6



A Monthly Journal Devoted to
ARCHITECTURE,
CONSTRUCTION, DECORATION AND FURNISHING
IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
409-410 MANHATTAN BUILDING, CHICAGO, ILL.

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TERMS: Regular number, \$5 a year; Photogravure edition, \$10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), \$1. Advance payment required.

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Inclination to Encroach on Public Parks. The consolidation of three great libraries in New York city, and subsequently the proposed erection of a monumental library building, has brought the question of site before the people. There is a general disposition to raze the old reservoir and use the square it occupies for such a building. It is pointed out by *Forest and Stream* that if that picturesque old pile of masonry were removed it is the duty of the city to give the space to the people for a park, and that the library should be built elsewhere. It is time that large cities recognized that they cannot have too many of these breathing places for the people, and still it is the inclination of even the most public-spirited to seek space in a public park for some museum or library. There are no good reasons why this should obtain, and many why it should not. Open spaces where grass and trees can be grown are always too few, and their benefits are greater than that of any library or museum, and any such encroachment should be resisted. Again, besides the constant encroachment that would gain from year to year were such a policy fully inaugurated there is the ever-present danger of these buildings coming within municipal and consequently political control. The Academy of Sciences is threatened with this danger in Chicago, and the Metropolitan Museum in Central Park is not far from the danger line. Let the public refuse to devote a foot of park space to any building, and it will be on the safe side, for ground can be bought upon which to erect these libraries and other public buildings, which, however beneficial, can never take the place of trees, grass and fresh air in the building of a strong and sturdy race.

A Minimum Standard of Ventilation for Buildings. The American Society of Heating and Ventilating Engineers, through a committee appointed for the purpose, have made a very thorough research into the ventilation standards in Europe and America, and while the search for data was in some respects discouraging, the general result is sufficiently definite to allow of a minimum standard for all classes of buildings to be recommended. Thus, for instance, from Russia, it was reported, "the climate was so severe as to require the windows to be sealed up six months in the year." In England, it was stated, that "the architect uses his judgment with regard to arrangements for ventilation," and only in Rome and Switzerland does any attention seem to be shown to the subject of ventilation. In Canada the official regulations require in schools 260 cubic feet of space per pupil, while in the United States experience seems to have established a minimum about 1,800 cubic feet of air per hour per pupil as a standard for schoolrooms. The deductions of the committee are that for all buildings such as schools and asylums, occupied almost entirely by children and youths under fifteen years of age, the minimum amount of air for ventilation shall be 1,800 cubic feet per hour per person, and for those over that age, 2,000 cubic feet. In the matter of gas lighting, each gas jet shall be supplied with 3,000 cubic feet of air per hour. In a matter so important from a sanitary standpoint as that of ventilation, it seems incredible that more definite knowledge has not been obtained and compiled even than that collected by this committee.

ARCHITECTURE AND DECORATIVE ART AT THE ART INSTITUTE OF CHICAGO.

BY P. B. WIGHT.

THE Schools of the Art Institute of Chicago have closed the season of 1895-6 with an exhibition in the northeast rooms of the second floor, which will remain open indefinitely during the summer. The attendance during the year has been remarkable and outnumbers that of any other art school in this country. In the regular day schools there were 146 in the Life Class, 153 in the Antique Class, 115 in the Intermediate Class, 135 in the Elementary Class, 75 in the Designing Class, 31 in the



Modeling Class and 39 in the Architectural Class, making a total of 694. In addition to these the Evening Schools and the Saturday Classes brought the total up to 1697. Those which will most interest our readers are the Designing, Modeling and Architectural Classes. Of these it is interesting to note that in the Designing Class there were 8 men and 67 women, in the Modeling Class there were 3 men and 28 women, and in the School of Architecture there were 38 men and 1 woman. In view of the demand for skilled modelers in the arts cognate to architecture it is remarkable that there were so few men pupils. Is it possible that the women intend to monopolize this field? It seems that the Art Institute offers great advantages to the large number of draftsmen now out of employment, who might avail themselves of its privileges to acquire experience in a field that would be comparatively easy to fill after their experience in the offices, and in which they might in the future find better opportunities for employment when business revives.

The instruction in these departments during the year has been under the admirable direction of Louis J. Millet, professor of Architecture and Designing; Walter F. Shattuck, instructor in Architecture and Perspective; William K. Fellows, instructor in Architecture (who has just taken the Prize of Rome from the American school, and will be absent two years); Albert L. R. Van den Bergen, in charge of Room of Application, Designing Class; and Mary G. Hess, assistant in the Designing Class. Besides these W. L. B. Jenney, William A. Otis, W. S. McHay and James R. Willett have lectured before the Architectural Class.

The Department of Decorative Designing, from its longer experience, still takes precedence, as judged by its results, over that of architecture, and, indeed, over all the other departments of the school. It is under the direction of Mr. Millet, assisted by Miss Hess. The object of this class is to educate students as practical designers, so that they may be prepared to go directly from the school into professional work, and many of them do. The course is similar to the well-known schools of design and applied art for women in eastern cities, excepting that men are not excluded from the school. The course embraces the study of historical ornament, practice in drawing as well as water and oil color rendering, the study of the theory of design and exercise in original designs for stained glass, wall paper, rugs, book covers, metalwork, carved wood, interior decorations, carpets and decorative work of all kinds. The class is conducted upon what may be

called the *atelier* or studio system, in which the teacher is in immediate communication with each pupil, and varies the instruction to meet individual cases. All are required to draw from casts, chiefly of ornamental forms, in which the collections of the Art Institute are so rich, especially in the collection of casts of French historical ornament, which were brought to Chicago for the World's Columbian Exposition, only a part of which are, however, available for want of room to set them up. By this they acquire a facility in drawing quite as well as in the antique classes and an acquaintance with the forms of decoration in the great periods of art. Very soon this drawing is alternated with exercises in original design, at first simple and relating chiefly to form, rather than color, and gradually increasing in difficulty until they form a series of compositions on stated subjects embodying the main problems and applications of ornamental design. Meanwhile, there is regular instruction in the use of water colors, and the designs are executed in all varieties of mediums.

The library contains many valuable books upon decorative art of which the students of design make constant use, each student setting up from the beginning a scrapbook of tracings which gradually forms a reservoir of useful patterns selected by the student himself. Problems in specific historical and national styles are avoided early in the course until the student has become acquainted with the general principles of the arrangement of design. This is contrary to the practice of many schools of design, but the results seem to justify the method, the designs even of the first year showing much originality and an unusually high level of average excellence. The course is eminently practical, and graduates from this class are at work as professional designers in various manufacturing establishments in Chicago and elsewhere. A feature of this department, of the greatest value and importance, is the workshop, or room of application, in which the students, under the direction of Mr. Van den Bergen, carry out their designs in actual material. The object in view is, not to learn special trades, but to become acquainted with the limitations and peculiarities of the material. During the past year a great amount of shopwork has been done, chiefly in the direction of plastic decoration and polychrome relief work. The exhibition shows the result of a competition among the women students in the modeling of an architectural spandrel ornament, full size, of which nineteen are exhibited. Some of the examples are quite as good as we could get from the average of professional modelers. Six very ambitious attempts, all by women, may be found in one of the basement rooms, where, for want of space, and because most of them are unfinished, they lie on their backs on the floor. The subject given was a section of wall decoration in full relief combining two pilasters and an arch, to be executed in plaster and about ten feet in height. Each competitor—all young women—was given a historical style, and told to carry it out as best she might by reference to the books and casts of the Institute. The workroom soon assumed the appearance of a modeling and casting room of a World's Fair "staff" contractor. The result is remarkable, considering that the women had not had any distinctively architectural training, while the execution demanded in every case a knowledge of architectural construction and form in which previous studies of purely decorative forms were only helpful in matters of detail. The results give the impression that the directors of the school imposed a heroic task upon weak bodies, and rather overstepped the bounds of discretion and good judgment. But the women accepted it with woman's heroism. The results from an architectural point of view are rather remarkable, and it is not to be wondered at that the Moresque example was the most successful, and the Gothic example the most unfortunate. The hardest task was the Hindoo example.

On the walls of the exhibition room, besides the spandrel panels already mentioned, are groups of drawings and paintings covering the following subjects of competition: Design for a rug in oil color, six drawings; design for all-over wall paper, in distemper color, twelve drawings; wall paper frieze, in distemper color, ten drawings; mosaic border for floor, in oil color, fourteen drawings; lace handkerchief in Chinese white on blackboards, twenty-three designs; a recessed fireplace in water color, ten designs; picture frame, to be executed in composition on wood and gilded, fourteen designs. The designs for a baptistry, executed in water colors, of which there are nine, each shown by two drawings, are ambitious architectural compositions. Two of the male students entered this against the women, and were at home in the

task. There are also designs for glass mosaic ceilings, illuminated verses — being exercises chiefly in lettering, book covers, one-day sketches for various objects; and not of least importance, posters for a flower show, in which the greatest exuberance and facility of design have been shown, and the widest freaks of fancy admissible.

The School of Architecture is now just three years old, and considering its infancy, makes a very respectable and creditable exhibit. It would be unfair to compare its results in general with those of the older and eastern schools of architecture, but in a few instances the competitive designs of the students are equal to the best that have been seen in recent years. Among several of equal merit we have selected for illustration the design for the façade of a country club house, by F. G. Mueller. If not so named, it might be called "Design for a suburban palace of moderate dimensions, in the French chateau style of the sixteenth century." But the composition and rendering are good from an architectural standpoint, even though there is little to suggest in this or most of the other designs that they are for a country club.

The architectural school of the Art Institute is, as is generally known, conducted in conjunction with the technical schools of the Armour Institute, which in addition to its regular curriculum

from plates, after the manner of the French school and all well executed. The exercises in shades, shadows and perspective, under the direction of Professor Shattuck, are illustrated by many careful drawings illustrating the thoroughness of his system of instruction.

The next school year will commence September 17.

In this connection it may be in order to throw out a suggestion. The largest and most valuable casts of the French historical examples of architecture which were exhibited at the World's Columbian Exposition have been in storage since 1893, because the Art Institute has no place to display them. There seems to be no prospect of this being done until the east wing and central hall of the Institute are built. There is no certainty of this being done for years to come, and meanwhile part of the ground which this will occupy has been covered with temporary buildings for the schools of art. But the campus in the center is vacant. It seems as if the directors might find the way to set up these examples in a temporary building until they can be permanently housed; for the students of the school, the architects of this city and the public ought not to be deprived of their use if it is possible to do this.



DESIGNING CLASS—ROOM OF APPLICATION, 1895.
Students of Architecture and Design at work on Mosaic, Plastic Decoration, etc.

of scientific studies instructs the architectural students in descriptive geometry and graphical statics, leaving the more artistic training to the Art Institute. Therefore we find in this exhibition examples of the work of both.

The subjects for original design, which have been given out during the year and in which the work is competitive, have been, among others, "A County Jail," "A Dispensary," "The Side Entrance to a Museum of Fine Arts," "The Façade of a City House," "A School for Boys," "A Classic Tomb," "A Country Club," and "A Decorated Ceiling." In the competition for a jail and dispensary the want of knowledge of technical requirements is evident. In the "Façade of a City House" it is interesting to note that there are four designs in French Renaissance, two in free Renaissance, and one Venetian. The last, which is best in design and rendering, bears a strong resemblance to a dwelling recently built on the Lake Shore Drive. The "Country Club House," except in one instance, wherein the French half-timbered system is used, seems to resemble in every other design a suburban residence rather than a club. The best designing in these competitions is found in the "Decorated Ceiling" series. In each case it is a colored ceiling, and all are carefully studied in details. The best rendering is found in the design for a classic tomb, the water color by Frank H. Fonk being especially meritorious. There is the usual collection of colored and shaded details of the classic orders copied

"GLIMPSES OF THE BUSINESS SIDE OF AN ARCHITECT'S LIFE."*

BY JAMES R. WILLETT.

YOU can learn an immense amount from contractors if you will make a habit of discriminating between contractors and contractors, so that you know whose word to believe and whose not. While you should not get too intimate with contractors, nevertheless you should try to draw them out, they possess a vast amount of knowledge which would be of great value to yourself; but don't draw from one contractor alone, that is apt to tie you up to a certain extent, and perhaps cause too much of an intimacy between you; draw information from every one that you can; compare their statements. The way to do this is to be good at listening, asking perhaps an occasional question. Don't contradict the contractor, that is the way to shut him up, and the shutting up should not be on his side; let him talk freely, and in the few questions you may ask him, let the tendency be to draw him out; usually it is better not to argue with the contractor, certainly not until you have got all the ideas you can get out of him; it makes no difference whether you agree with him or not, he will state his own case far better if he is let alone, whereas if you contradict him he is very apt to get in a huff, and as you are a young man, say or think "That young fool thinks he knows something." This gets up a spirit of antagonism between you by which you are the loser. Do not imagine that inexperience can impose itself as wisdom on experience, it cannot be done.

* Extracts from lectures delivered to the Senior Architectural Students at the Art Institute, Chicago, Illinois, commenced on page 43, No. 5.—Concluded.

Some owners after having requested you to take bids, inform you that they intend a certain bidder to have the work, although they usually expect not to pay the bidders for the time and trouble they have been put to. They do not usually see anything improper in this. It is never honest to require labor of others where you do not intend that they shall get any recompense therefor; and in such cases as this, it is the architect's duty to state this to the owner, and while he cannot control the owner in the disposition of his own money, it is his duty not to allow himself to be made a party to a wrong.

It is no small labor at times for a bidder to make out an accurate estimate of what a building will cost; the bidder does it on the presumption that he has a fair chance for the work. Where the architect knows he has no chance at all, he is a party to a fraud if he allows such a thing to occur. It is true that owners are usually honest men and have no intention of wrongdoing; they regard it, and have often been informed by contractors, and architects, too, that it is a custom of the trade; but it is never a proper custom of any trade to practice deceit; so long as all the parties entitled to know the facts are fully informed and there is no deception used, then no one has a right to complain, be the result what it may. If an architect can do no more, he can inform the bidders that there are parties that have a preference. If you wish men to deal honestly with you, the best way to attain this end is to show the example by being honest in your dealings with them.

The architect should take pains to see that both the owner and the contractor understand the terms of the specifications. This does not mean that you shall instruct each in all the details of it, for the contractor may be supposed to understand them without being shown; while the owner would not understand them without a regular procedure of instruction; but the architect should take pains to see that all the business points are understood by both parties, as he will have the enforcement of the contract, and it will simplify his work if they both thoroughly understand it. Should any doubts occur to the architect as to how a clause might be interpreted, he should see that this clause is so altered as not to permit a double understanding.

After selecting the contractor—and it is usually best for the architect that the owner should do so, especially when the architect is young and inexperienced—then comes the making of the contract. In very large works the contract may be drawn up by attorneys, indeed in some respects it is best for the architect that it should be so done, but usually the contract is drawn up in the office of the architect, and he must be prepared to make it. Contracts are not usually difficult to draw. A short and plain statement of the business facts of the works under consideration which are to be carried out, make the best contract. The specifications and drawing should contain all the technical description of the work, and the contract all the ordinary business part. It is best that the specifications themselves form part and parcel of the contract, or at least be attached thereto.

The drawings should be regularly numbered, and a list of these given in the specifications. It is well to have both the owner and the contractor sign the principal drawings, indeed it is well to have them sign all of the drawings, though this is not common; often none of the drawings are signed. The title should be on the upper right-hand corner of the drawings, and also the number of the sheet. If it is desired to bind the drawings together they can be bound on the left-hand side.

With regard to the ownership of drawings: The owner sometimes claims them as his own personal property, while the architect regards them as his property, as tools used in the erection of the building and ultimately to remain in his possession; in the same manner that a carpenter while using his tools on the work of erecting a building does not, at the completion of the work, leave the tools as the property of the owner. It is a disputed question, and it had better be settled by stating in the contract that the drawings are to remain the property of the architect.

Contracts are not always written exactly the same, nevertheless there is a general resemblance. The greatest point of difference is usually over the question of arbitration. The custom has been for the architect to be appointed arbitrator and his decision made final on all parties. This has been objected to by the contractors, who claim that the architect, being paid by the owner, is not the proper one to decide between them. There is much to be said in favor of the contractor's ideas; all sorts of plans have been got up to avoid this difficulty, by bringing in a board of arbitration, etc. But, whatever the legal questions may be, the fact is that many of the decisions called for must be given without delay or the work brought to a stop. After all, the decision must be given by some man or men; if the architect is sufficiently in the confidence of the owner to be employed, and of the contractor to sign a contract subjecting him to his authority, then he ought to be sufficient to decide questions that may come up between them. The great advantage of him so deciding is that he is acquainted with all the facts in the case, ought to be readily able to give a decision, and he can give that decision without delay and without additional expense, which a board of arbitrators is sure to involve, sometimes to a considerable extent.

It is the business of the contractor to know about the architect and his reputation before he signs a contract; if he fails to do so, or if he signs a contract accepting an architect as arbitrator where he does not believe the architect is honest, competent or the proper person to give a decision, then he is a wrongdoer and should suffer for the consequences of his folly. The standing of any architect, who has resided in a place for any considerable period, is generally well known to more or less contractors, better

known usually to contractors than to owners. Some architects look upon contractors as their natural enemies and vice versa; I think at times that both have had reason to do so. The contractors generally think that the architect, being paid by the owner, is necessarily his servant and must obey the owner's orders. I am speaking of the architect who does his business in a purely professional manner, who has no building interest except in the absolutely professional way; who has no financial interest as owner, stockholder, etc., in the work, in fact none whatever except the professional fee which he is legitimately entitled to, and whose interest in the building is in the superintendence of it, and only the superintendence, without any other interest whatsoever.

It has been said you should not assume the contractor to be dishonest nor treat him as such. Now that is true. On the other hand, neither must you assume him to be honest, competent and willing to do the work according to design. In superintendence, you are employed to superintend the work, and it is part of your duty, therefore, to see that the work is done, either by yourself or by deputy. It is a distinct violation of your duty to take the contractor's word for the work being done correctly; the owner could do that as well as you and save the cost of superintendence. Therefore, while you treat the contractor as an honest, straightforward man, you must see for yourself that the work is done right.

While you must hold the contractor up to the full responsibility for the work, you must also see that he has justice done him. Sometimes this very desire of justice may lead you into conflict with the owner, either through ignorance on his part or otherwise; and it is scarcely necessary, I presume, to say that you must be on your guard against yielding to the owner in such cases where you believe the owner to be in the wrong. Proper explanation, together with courteous bearing, will usually bring everything right; but in any case you must not allow yourself to be used as an instrument of wrongdoing. The owner sometimes presumes upon the fact that he is your paymaster; but you have accepted the duties of a judge, and if you fail to fulfill them, then you are no longer honest. While this may sometimes cause you to lose the good will of the owner, and to lose his custom, yet on the other hand, when you are in the right (of course that is to be taken for granted) it inspires him with a respect for you, and gives you a hold on his confidence that nothing can shake. If the owner finds he can influence you, especially to do a thing that is of doubtful propriety, he will think perhaps the contractor can do the same thing, and rate you accordingly. While you must not be in a hurry to find fault, nevertheless you must equally be vigilant to detect errors of any kind; and although the architect is not responsible to the contractor for the detection of any errors, he is responsible to the owner. It is always desirable to have a good feeling existing between all persons engaged on a building. No architect, and especially a young one, should be in a hurry to find fault; there is no readier way of an architect losing the confidence of a contractor and the owner than unnecessary fault-finding. A few mistakes like that will, and ought to, cost an architect the confidence of both parties.

The architect being superintendent over a building, different kinds of work come under his supervision, and sometimes work which he is not specially acquainted with. The owner usually gives credit to the architect for knowing more or less about everything going into the building; he may be generally right in taking this position, as he does not know the limits of an architect's knowledge, nor of his ignorance. The architect, therefore, should guard against being held responsible for work which he is not competent to design and look after, by so informing the owner. As, for example, some time ago it was stated in an architectural journal that a chimney shaft had been built, according to the design of the architect, in a large building; after the building was built the chimney was found to be of insufficient size, and it became necessary to pull the chimney shaft down (which meant to gut the building), and rebuild the same on a larger scale. The owner charged the expense of this rebuilding to the architect; a lawsuit followed, in which the architect stated that he had made the flue according to the usual custom; that he was not an expert in such matters as steam engines, chimney shafts, etc., and that he was not to be held accountable for the trouble. The court decided against the architect. I think the verdict was a just one. It is true that the architect is not expected by the architectural profession to be expert on such matters as large chimney shafts and their proper sizes, but he should have so informed the owner, and either procured the proper assistance, or let the owner have done so.

What is an architect's proper position? In what way, if at all, does the architect's duty to the owner and the contractor differ? As a matter of good workmanship and justice, that is common, a duty you owe to each, but there are some differences nevertheless. The contractor is assumed to know his business, to understand the drawings and specifications, and to be up generally in his particular trade. It is no part of the duty of the architect to furnish a contractor with information about the technical matters of his own trade; if he does not know them already, he should not undertake the work. On the contrary, the owner is not supposed to know anything about building, and it is the duty of the architect to furnish such knowledge on the owner's behalf, either himself or by calling in assistance; now having done that, all other duties are in common between the two; the one is just as much entitled to equal justice from the architect as the other. I state this particularly because the architect is paid by the owner, and this might influence the architect; beware of this, be sure to be just to both.

The contract having been duly executed, the next thing is to lay out the work upon the ground. It is no part of an architect's duty to lay out the building on the ground; that properly belongs to the contractor. It is the business of the contractor to lay it out in accordance with the drawings. Moreover, there are certain objections to the architect laying it out; the marks may be rubbed out—who is responsible therefor? The architect cannot be there personally all of the time to see that the marks on the ground are preserved while the contractor, or his men, are usually there constantly. It would usually be impossible for an architect to swear, after a lapse of some time, that the stakes were exactly in the place that he placed them; and it might be that the contractor would have an interest in altering the same; stakes are sometimes accidentally displaced without the knowledge of the architect, or, indeed, anybody else, and are not always replaced where they should be; therefore, I would caution the young architect against being responsible for the laying out on the ground, either by himself or deputy. He must, of course, on the owner's behalf, see that it has been done correctly. Such questions as the laying out of a building are most likely to come up in small places. In cities—Chicago, for instance—no architect ever thinks of laying out a building on the ground. In fact, in cities the necessary data for finding the property line is a matter of local knowledge, usually private property; old surveyors have reference notes which have been the accumulation of years.

In the country, buildings are usually put up on plats of ground much larger than the buildings, and there is a space all around the building between it and the property line; but that is not usually so in the city, especially in the business district of a large city, there usually the building covers the whole of the lot. It is important, therefore, that the survey should give the plat correctly, and the architect should give and require from the surveyor employed, the following information. You should give the surveyor the legal description of the property (which you should procure from the owner) and request the surveyor to state whether that is the correct description or not; not infrequently will the description given in the deed vary somewhat from that given by the surveyor, though the difference is not usually essential; yet it is well to have the exact description, and in case of variation between the one you receive from the surveyor and the one you receive from the owner, then you should call the owner's attention to the fact. My experience is that the surveyor's description is most likely to be correct. Also have the surveyor give the legal description of the adjoining property. Also have the surveyor make a plat of the ground with all dimensions, notes and all data thereon; the heights and sizes of street sewers; the heights of outside and inside grades. Also widths of sidewalks, alley and streets, together with position, etc., of adjoining buildings, fences, etc. Make these lines on the ground and also the heights of inside grades. These marks must be made in a permanent manner, so that they will not be destroyed during the construction of the building.

After receiving the plat of survey from the surveyor, it is well to make this plat one of the sheets of drawings, which drawings should be numbered and enumerated in the specifications. See that the adjoining owners are notified to take care of their walls, if there be any such; especially is this true if your foundation is designed to go below those of the adjoining buildings already built. Acquaint yourself with the building laws in the locality where the building is located, and govern yourself accordingly.

Where you are building on the property line it is usually well, when practicable, to have party wall agreements, but it will not always be practicable to have this done. So long as you do not go as low, or at least any lower, than the adjoining building, no trouble need be apprehended; but if the adjoining building has been erected any length of time, it is probable you will have to go below it; the foundations of your building are usually called to go lower than those that have been up a number of years, and this leads to more or less discussion between owners. In European countries there are usually some laws regarding party walls which cover the conditions on which they must be built, and there may be in some American cities laws to this effect; but in this city, Chicago, there are no such laws; either owner can dig as far down into his property as he sees fit; this may undermine the foundations of the adjoining owner. The architect should see that due notice is given to the adjoining owner before he allows excavation to go to such a depth.

No definite advice can be given as to the methods of procedure; simply good business judgment, prudence and a desire to conciliate by giving way wherever practicable, and also showing that the essential will be required. Better give all the notice that is practicable, for the adjoining owner dislikes to have to underpin his foundation, and the more time that is given him to allow his feelings to subside the more likely is he to comply peacefully. It is better to have a party wall and have it spread equally on both sides; and this last fact makes it desirable where there are no buildings erected on the adjoining lot that a party wall agreement should be made; this will allow a better wall to be built—better for both and cheaper. Whatever depth of foundation is required, that depth is usually measured from the street grade, and the excavation to that depth should be seen to. The contractor is very liable to avoid going as deep as the plans call for; if he finds his work is not looked after, it is not likely to be done. After the putting in of the foundation has begun, it is difficult to tell just how much of it has been done right and how much, if any, done wrong.

Of course, the depth of the foundation will depend on the

nature of the soil, and this is largely a matter of local knowledge. The young architect cannot do better than to inspect, if it is practicable, all foundations being erected in that locality; by talking to the contractors there, and in short getting all the information he can. It is true in the same locality the differences are great; as in Chicago the soil runs all the way from rock to muck. In the case of the soil on which foundations are to rest being muck or running sand, it becomes necessary to put in foundations in short lengths at a time, by excavating lengths from fifteen to twenty-five feet, inclosing it with boarding so as to keep the soil out, and then filling up with the foundation, the lower course of which is usually, and better be, concrete.

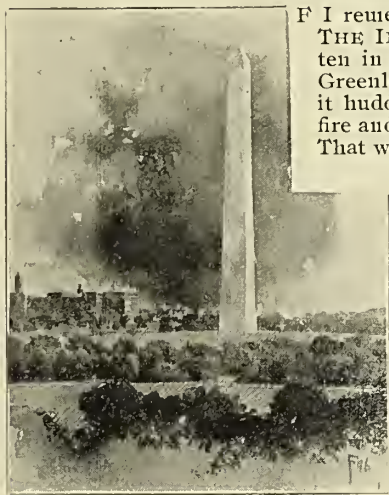
It is very difficult to pass judgment on unknown foundations—that is, the soil below. Natural rock, for instance, is usually considered the very best foundation, yet the only serious settlement I have had in a building was when it was founded on natural rock. It was quite a long building, and one corner of it settled several feet. On examination it was found that the whole rock for quite a distance around had gone down. It was in a part of Tennessee where the rock was cavernous, and there was evidently empty spaces below, which let the rock down some two feet over a surface of about one hundred feet square.

The trouble usually with the brickwork in country places is that many of the bricks are under-burned, or what is called salmon brick. Not much trouble is now experienced in Chicago on this point, since they have greatly improved the method of manufacturing brick. Forty to fifty years ago the bricks were far inferior to what they are now; by the introduction of perpetual kilns and other improvements there are very few under-burned brick now in Chicago, and one source of anxiety to the architect has passed away.

Chicago is also largely favored in the way of rough stonework by having close at hand limestone in large quantities, and rock strata. It is not difficult to import brick at small prices for the country places that are on the line of the railroad; they can usually import brick cheaper than they can make it at their own places.

I have now said all I think it is proper to say to you on the subject; I have striven to give you such information as is not usually found in books. For the actual ordinary execution of the work there are several books on the subject which go into the matter in detail, such as Clarke's "Superintendence," Wightwick's "Hints to Young Architects," Johnson's "Engineering Contracts and Specifications," the latter of which is especially valuable on account of information regarding contracts, and to these and similar works I refer the young architect who wishes to complete his studies on such matters.

A RAMBLER.



IF I remember well, my last letter to THE INLAND ARCHITECT was written in Canada. It was colder than Greenland's icy shores, and I wrote it huddled up close to a scorching fire and had an overcoat on besides. That was not so long ago, either—

don't seem to be over a week or so. Today I am writing this in Baltimore, one of the hottest places outside of Hades. I have shed all the clothing that the law will permit me to, and have absorbed enough iced lemonade to float a yacht. *Tempora* certainly does *mutantur*, and, I suppose, *nos mutantur in illis*, too.

It really seems too bad, though, that a fellow who could enjoy a nice time so well as I, has to mix

things up in such an unenjoyable way. Why not go south in the winter and north in the summer? But no, business calls me north in the winter, and now compels me to broil and bake down here, where the thermometer will insist upon climbing up to the nineties.

Possibly it is the weather that makes me disagreeable and hard to please, but I certainly don't like Baltimore—that is, from an architectural point of view. Too much like Philadelphia. Like that latter place, Baltimore has some fine monuments, and a few good-looking houses, but the good impression made by them is entirely obliterated by the great number of monotonous streets—full of stereotyped repetitions, in the way of houses—that are its chief claim to a resemblance to the metropolis of Pennsylvania. I can go out here to pretty nearly any street intersection, and beforehand I know exactly what I will see. Looking in all four directions there is nothing but continuous rows of red-brick, three-storied houses, close up to the street; there are five white marble steps up to each respective door, and the door architrave, keystone and window sills are also of white marble, or of a whitish gray imitation stone.

True, some houses have a polished brass handrail superimposed upon the steps to help one in their ascent, but even this break-out

from the regular harmony seems to have hurt the good people's sense of the fitness of things, for they have all banded together, evidently, by some solemn compact or other, and each and every house, without any exception, has a brass lamp in the first floor front window, and upon that lamp is a red paper shade, of exactly the same color as the outside brick wall. This seems to be full

compensation for the sin of the brass rail.

The regular Baltimore street reminds me of the first perspective a youngster generally attempts.

There must surely be mighty slim picking for the architects here. All a man needs to do, when desirous of building a new house, is simply to cut off another slice from the common stock and stick it on to the end of an existing row—if he can find any end to them.

It is rather a mean trick—or at least a poor way to do—to ignore all the beauties of a place; the fine residences, the magnificent park, the monuments, all, and to write about only the inartistic, the unattractive features of that place. There are beauties in Baltimore—particularly of the feminine persuasion—but then their con-



THE DOME.

found long rows of monotony completely overshadow them, in my mind, and when I think of the city and try and think pleasantly, those red walls and the five white marble steps spring uppermost, specter-like, and completely drive away any happier visions I would wish to conjure up for my memory to sweetly dwell upon.

Washington is simply delightful, a city one would most naturally select, of all cities, to dwell in, excepting for a couple of months in the summer. Even now the asphalted streets absorb, retain, and throw off the heat, when it ought to be cool, in a rather free and easy manner, not at all conducive to the continued good temper of one not used to the heat; but then there is so much shade, so many green spots, fountains, and fair maids in summery apparel, that one can really ignore the weather and thoroughly enjoy life, in spite of a crinkled-up collar and a damp brow.

No smoke, nor foul-smelling alleys to pass; no wild rush in the streets, nor slippery cobble-stones to break one's neck upon. Think of it, ye Chicagoans! True, there are bicycle scorches and Barbary, or barbarous, grinding-organs; but the police are arresting the former, and there is talk of Congress passing a bill making it a misdemeanor to grind one of the latter out of tune, or for any two organs to have the same tunes, which, using tariff lingo, will make it prohibitive to grind them at all.

You, I suppose, are more interested in matters architectural than in grinding organs. Well, there is no use writing to you about the Capitol, the Treasury, the White House, and all those well-worn structures; even if you never visited the District of Columbia, you probably have seen, I venture to say, perhaps thousands of photos, half-tone, zinc, lithograph, and other illustrations, murderous and otherwise, of all those buildings. I cannot describe sixteen and twenty-storied office buildings, either, for there are none. There are but few even six or seven-storied office or other commercial buildings; no need of them; nearly all of the people in Washington do business in the government buildings, rent free! and the stores are sort of overgrown village affairs, with "modern plate-glass store fronts" stuck onto ancient structures. The churches are numerous, but not many are beautiful; theaters numerous enough, too, but quite hideous. There are some really beautiful homes, and then there are the State institutions, the monumental departments, the monuments, the parks, the streets, their beauty, symmetry and cleanliness, trees, the odor of lilacs, well-dressed and well-fed leisurely people; why, one leaves Washington with a sad heart at having to do so, but with pleasant memories of it, and a sweet taste lingering about one as if—but, I'm no poet, so, what's the use of attempting a rhapsody in only poor prose!

One thing perhaps you never saw that I did the other night, the Capitol by moonlight. It is grand, a dream, as magnificent a sight as one could ask for. You forget all the mean, sneaky little things that daily occur in it, and you picture to yourself all the great men, the great deeds that those honored walls have gazed upon; you think of the sixty or more millions of people who bow in respectful submission to the laws emanating from within that pile—until they can have them repealed. There is something majestic, weird and awe-inspiring in that picture that I'll never forget, and that makes me feel as if I were committing a sacrilege in trying to transfer it to paper.

Then, another day I saw the Washington Monument just before

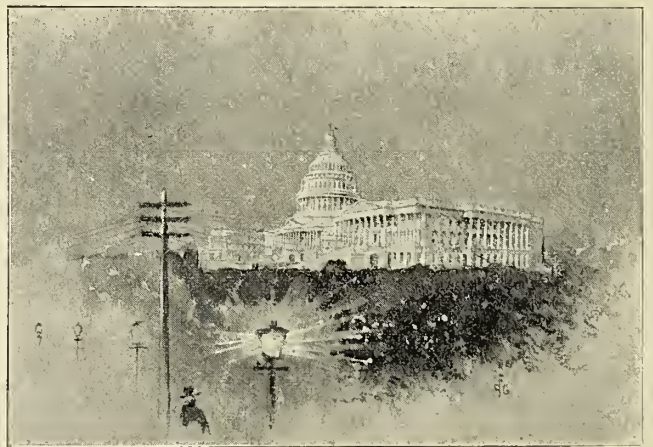
a great storm—almost a tornado, that played havoc with many signs and broke down some quite large trees—there was an inky black cloud rising in the southwest, and the old obelisk stood out against it in high relief, its rather murky paleness intensified into the whiteness of the driven snow.

Writing about the old Capitol I cannot help, being naturally a statistical fiend anyway, attempting to count up the several hundreds of efforts there have been made throughout the country to reproduce it. Almost as many, you will find, if you start out in the same calculation, as there have been attempts to improve upon poor Richardson's Pittsburg courthouse. And yet in spite of having that dome right at hand, to criticize and to improve upon, besides all the Old World domes that were levied upon for it, it still stands out preëminently *the* dome, and away ahead of anything of its kind in the country. Admitted that it has everything in its favor, surroundings, an enormous mass to grow up from and all that sort of thing, and taking everything into consideration, it can even then give a handicap and four points to any dome in this great (or is it *these* great?) United States.

The dome of the Congressional Library, within a stone's throw of the Capitol, is, to my mind, not nearly so happy in design. Of course, it has not such a pile to dominate as has the latter, and by rights should be subordinate to it, and there are precedents enough in the classics to justify its dwarfiness, but there is something so abortive about its general appearance that I often wish it were not there. This applies to the view one gets of it from almost any point excepting from the top of the front steps of the Capitol itself, from which point the building is seen in elevation, and the full value of the dome is obtained. From there it is really fine, most graceful in appearance and a fitting cap to the mass below it. But partially concealed as it is, excepting from that one point—and a fellow can't stay on the Capitol steps always—the building might be better off without it. That is from the exterior only. Inside it is really fine; in fact, taken as a whole, the library—perhaps minus the exterior of the dome—is the handsomest building the country has ever erected. It has certainly lavished the costliest of material upon it, and it has been applied by skillful hands. It is meet and fitting, too, that it should be so, for the original intent was to make it the greatest library on earth, and, Yaukee-like, the country "got there." That building stands also as a sort of vindication of government work; we all know its checkered career as far as its architects and changes of architects are concerned, but in spite of all it has preserved an originality of purpose, a continuity of idea and design and a harmony, though passing through so many hands, that is rarely, if ever, equaled by any of our private work of the best class that can boast of one master, one architect and unlimited means.

The interior is chaste, though rich in ornament, the marbles well selected and the design well studied out. They are now at work upon the decorations that are in charge, I believe, of Mr. W. H. Low. Two things he has done there that I don't exactly approve of—I suppose he will immediately rectify the error when he hears that I am withholding my distinguished approval—he has overlaid the main entrance vestibule ceiling with gilt. The walls are white marble, the floor a delicate mosaic and the ceiling white and gold; the idea is good, but he got too much gold on, it lowers it and makes it too heavy in appearance for the walls to sustain. I would scratch off about eighty per cent and send it back to the Treasury for export purposes.

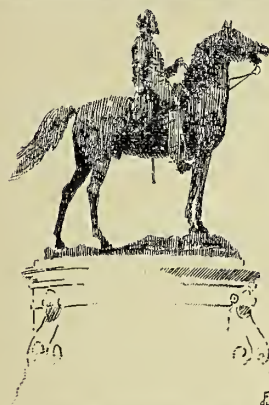
The same criticism applies to the main stairway hall. The walls are a pale slate gray marble, calling for some light tones in the ceiling, instead of which he has used rather heavy colors. Presumably the subjects chosen for illustration require a certain account of medium, but he ought to have changed the subjects or used a monochromatic scale. Many rooms, now finished, are gems of decorative art, others just begun give promise of being



CAPITOL BY MOONLIGHT ALONE.

beauties. Mr. Low is certainly not afraid of color, he is sometimes even daring, but is so thoroughly master of himself that no apprehension need exist in your minds but that as an entirety the decorations of our great library will be a fitting finishing off, an artistic climax to a work we ought all to be most proud of in all its details.

A stranger in Washington was asking me the other day if there was a law compelling all sculptors, who immortalized our dead heroes in bronze, to use the same horse for a model, and I declare it does seem so when you make the tour of the monuments. I realize you cannot very well represent one horse standing on his head and the next squatting upon his haunches, merely for diversity sake; but occasionally one might be represented as plunging furiously or something and not with exactly the same thoroughbred curve to his neck and the off-foreleg also curved in a more or less thoroughbred way.



GENERAL THOMAS STATUE.

The latest addition to the equestrians is General Hancock. It is the same old type and upon the same old stereotyped pedestal, a pleasing enough and well enough modeled figure taken singly, but no particular individuality to it to distinguish it from its many fellows—just another one of a pretty well-matched troop of cavalry. This statue was unveiled a few days ago, and at the ceremony I saw the President; he was looking well, I thought, for a man who has the cares and worries he has to carry upon his rather broad shoulders, not to mention the petty annoyances that go with the office that are calculated to drive a man to suicide or the insane asylum. The few days I was in Washington illustrated a few of them to me; the gaping, scrambling mob that presses around him when the poor man goes to church; men and their powerful friends clamoring for jobs; the squabbles among those who have jobs that he has to settle; little pitfalls prepared for him by the legislators that he has to avoid, the lack of disinterestedness on the part of friends—bah! who'd want to be the President? But what has the President to do with the monuments? I hope it will be many years before he will be a candidate for one.

When I wandered away from the issue I was going to say that of them all the Thomas statue is the most pleasing to me. It is conspicuous from afar, for one thing, and can be seen to advantage near by. There is character to the man; action and character too, for that matter, to the horse—a most effective piece of work.

The monument of them all, mounted on a foot, that I have the least use for is Greenough's Washington, near the Capitol; the common folks, not understanding the allegory, call it the "naked man." Surely the father of our country had character enough and sufficient individuality and acted in enough stirring scenes to justify his being represented as himself, in any one of those many scenes, rather than to be forced out of his clothes and compelled to do duty as a very poor, meek-looking and flabby Roman!

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I said above somewhere that there were many beautiful homes in Washington. I want to hedge on that statement and qualify it. There are beautiful places, well-kept lawns, porches covered with trailing ivy and all the accessories that enhance a house, but to say that these houses are beautiful architecturally is incorrect. Some of the simple old ones, the colonial mansions of our fathers, are good to look upon, but most of the pretentious fellows, the recent growth, lack design. Expensive and unrestful, joggy and minareted and all that, but no architecture, they come under the general head of carpenter's gothic, and in that respect bear a close resemblance to the palaces of San Francisco. You would expect that the cream of society, as you find it in Washington, endowed with wealth and considerable taste, would naturally turn to the best talent in the country when it wanted its homes designed, but it evidently didn't.

There have been long gaps between my visits here and there around the country, and I have kept no notes nor have I near at hand any groups of photos arranged in order as to locality, but just from memory, roughly speaking as it were, I would place the principal cities in about the following order when considering their merits and claims to precedence on account of their modern domestic architecture, not in quantity but quality: First, New York—I can't help it, dear Chicago, it hurts me, but honesty compels; then St. Louis, Chicago, Boston, Denver, Minneapolis, Seattle, and with San Francisco and Washington pretty well down the line.

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The past few days I have spent sketching up the historic Potomac, roughing it in the hills, among the 'possums, and floating down in ante-bellum barges upon the much-locked Cumberland canal.

It is beautiful country, just too early for flies, mosquitoes and other pests, and is not yet too warm to be comfortable. Just "too sweetly delightful" as the dear girls would say.

Next week I intend spending some time, now that I am in this section of the country, visiting and sketching around Alexandria, Mount Vernon and other spots hallowed by memories and sacred to the nation. There I will find some real "old colonial," and, of course, the INLAND ARCHITECT will have the distinguished privilege of publishing some of these sketches—provided, always, that they be on Indian paper and in a limited edition only.

Speaking, or writing rather, about sketches starts me a-moralizing. Why is it, I ask myself, that when a fellow (other fellows, of course) acquire some name and fame, and incidentally a habit

of getting big prices for his work, he grows careless and what one might call "sloppy" in his drawing, contenting himself with a few, a very few, masterly dashes that may or may not fully convey part of the idea that it is the intention to illustrate; while in the early times he used to make drawings that were sure to illustrate all the idea, and so fully that it needed no explanatory charts to translate?

I have in mind just now one artist particularly, a young fellow, one of three or four who have deservedly earned fame as illustrators. He particularly shines as a depicter of society folk. His drawings that first attracted attention were careful, well-detailed affairs, that the longer you looked at the more pleasure you derived and the more you thought of his ability. Today he slashes off something that conveys a sort of general idea of the subject; that is, you catch his intention at first glance, but you mustn't study it or ever look at it again, for as sure as you live you'll get a face mixed up with the back of the head or the hat.

Another, a Frenchman, who has won great fame as a magazine illustrator, used to make a drawing that, to apply a popular test, looked just like a photograph (?). I'm not exactly adopting that standard test, but used to admire them for their truth to nature and detail. There was a scholarly, finished look to them that one seeks for and expects, but, alas! finds not in his drawings of today. These are of the most impressionable of the impressionist order. You pay your money and you get mighty little choice. The picture may be a wreck off the coast of Labrador, or it may represent President Cleveland opening the World's Fair, but you look down in the corner and recognize the familiar monogram, and then you say, "Oh, my, how lovely!"

Now, is it not very much so with architects? Do the men who have acquired fame give the buildings intrusted to them the study and care that the subjects merit, or even that they used to give in the earlier times? You may say that now these big guns have acquired such experience and are so proficient in the art that they can and are justified in scratching off just a few *impressionist* lines and then turning the matter over to an assistant to finish up, and that the master-eye will detect any misstep, error or lack in the final drawing in time to correct it before its transformation into "everlasting rock" or the "resisting steel." This, I think, is a false notion, for I believe that the man who has been successful and who has erected a large number of buildings that average up well in design, must have natural ability; it is not something that he stumbles into or can even attain by years. In his earlier days he used to strain every energy, study and work upon a subject—his future depended upon it—there was pride, ambition, everything to spur him on. Today he has not the same incentives. He must



THE CUMBERLAND CANAL.

recognize that he has outstripped his fellows in the race; he is more or less self-satisfied, and in all probability pretty well fed, with the results that that natural ability and talent of his is somewhat blunted. In fact, to keep up to the standard he has set for himself and to keep out of the rut that would be most natural for him to fall into of copying his earlier works, I maintain he has to work harder and make a greater mental effort than he used to in his youth. Further I maintain that to impress a building with his individuality he must needs "work it up" through every step, aye, even to the detailing and the very modeling of the ornaments, and not be satisfied with merely affixing his signature in the corner.

This is my humble opinion, and I may be wrong; heaven knows that I am often enough, and am always willing to acknowledge it, so would like to have someone of the men who enjoy a big practice express his views upon the matter, for my opinion is simply hazarded—never having been a big gun, you know.

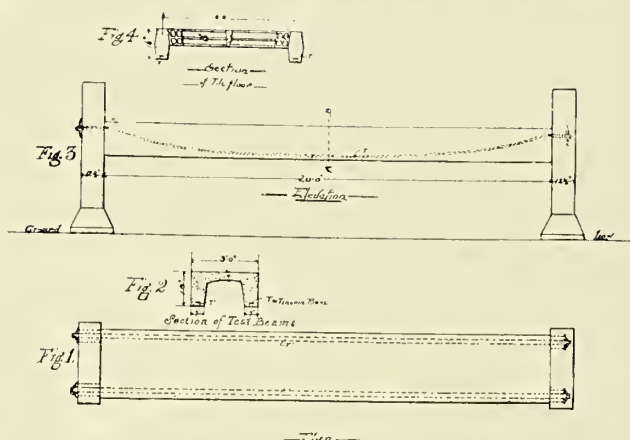
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Since sending off my very rambling "Ramblings" I have seen the Congressional Library from down the river and from up in the hills. I remember having made some disparaging remark about its dome, but since seeing it from those distances I am more impressed with the nobility and purity of the entire mass; so, as congressmen say after cussing a fellow-member, "I wish to withdraw anything derogatory I may have said about the gentleman," and further will even claim that today it stands forth the most architecturally beautiful public building in the country.

AN EXPERIMENT IN ECONOMIC FLOOR CONSTRUCTION.

MR. L. G. HALLBERG, a well-known Chicago architect, has recently been making investigations into a system of floor construction which was attempted twenty years ago, but never came into extensive use. It is based on the tensile strength of steel and the resistance of hard concrete to compression. He proposes to construct girders and floor beams of these materials, and to build them in the positions in which they are to be used, using a box centering and compacting the concrete around a flat steel bar, which is bent into the form of a catenary curve. At the center of the beam it is not more than $1\frac{1}{2}$ inches from the bottom, and rises toward each end nearly to the top, where it passes through cast-iron plates in the form of a loop, in which a round iron crossbar is inserted. He proposes not only to build the beams in position, but the floor as well, by a simultaneous operation, the latter to be either a flat concrete arch or a hollow tile arch. It is claimed that the reduction in the weight of steel will be much more in the first cost than the added cost of the concrete.

On Thursday, the 2d of the present month, a large number of Chicago architects, on invitation of Mr. Hallberg, examined some test beams that he had made on a vacant lot next to his residence on Huron street, where he explained the system as far as he had carried it out. There were two examples. The first consisted of two beams, sixteen feet between bearings and eighteen inches deep, made of concrete composed only of cinders and Portland cement, each being seven inches wide at the bottom and



slightly wider at the top. They were connected by a section of floor in the form of a concrete segment arch, four inches thick at the crown, and the upper surface of the floor, including the width of the beams, was three feet wide. Each beam had a 3 by $\frac{1}{2}$ inch steel tension rod, with plates at each end. These beams were not tested. The second sample, of which we present an illustration in Figs. 1, 2 and 3, was of similar section, but twenty feet between bearings, and the concrete was composed of Portland cement, sand and fine broken stone. This was loaded with 30,000 pounds of pig iron, distributed so as to be heaviest in the center and diminishing in weight toward the bearings. The experiment was not carried farther, there being $7\frac{1}{2}$ tons of iron plus half the weight of the floor on each beam, and the deflection was said to be about $\frac{1}{8}$ inch. Calling the whole a section of floor the distributed load was 500 pounds per superficial foot, and had the beams been six feet from center the distributed load would have been about 250 pounds to the superficial foot.

At Fig. 4 is shown the section of a piece of flooring, drawn to the same scale, in which the beams are sixteen inches deep, eight inches wide, and six feet from center. The connecting floor supported by the beams is made of 8-inch hollow tiles. The outside tiles follow the direction of the beams, and the intermediate tiles are subjected to end pressure. A box is made for the lower half of each beam, the tiles are laid on a plank centering, so that the outside rows form the upper half of the beams, and the concrete is then filled in up to the top of the tiles, practically forming a skewback on each side of the flat arch. A solid tile key course is then driven down between the two end pressure tiles, compacting all the joints. The beams are tied across by anchors, with bent ends, laid in the joints between the tiles.

Mr. Hallberg intends to test the beams already made to the point of disruption and to build a section of floor similar to Fig. 4, which will also be tested to find its ultimate strength.

There are no formulæ for ascertaining the strength of these constructions, and extensive experiments will be necessary to demonstrate not only their feasibility, but their economy as well. They seem to show many advantages where coffered ceilings are desired, and it may be demonstrated that they can be used with advantage for flat ceilings. There is no doubt as to their fireproof qualities, for Portland cement concrete has been demonstrated to be equal to any other material in this respect, the only objection urged against it being on account of its great weight. This cannot be of much importance in the case of coffered ceilings as here shown. To make it successful much will depend upon the quality of the cement used, the composition of the concrete, and the care with which it is put in and tamped down. Absolute uniformity in these respects will be essential to its success as a constructive system.

THE SOUTHERN ASSOCIATION OF ARCHITECTS.

THE following letter has been addressed to all the former members of the Southern Chapter, A. I. A., and to others, and is self-explanatory:

DEAR SIR AND FELLOW,—Owing to the fact that, for various reasons assigned, there was not a quorum of members in attendance at the meeting of the Southern Chapter, at Richmond, Virginia, April 28, and it was deemed inexpedient to try to secure a quorum by telegraphing to absentees, it was decided that no business should be transacted, except to count the letter ballot recently taken, and to officially announce the result of that ballot, by circular letter and through the *Southern Architect*.

No responses were received from one-fifth of the members, some of whom have not been cooperating with the Chapter in any way. Of the votes cast, ninety-five per cent were in favor of maintaining an organization among the architects in the southern states, and slightly over two-thirds were in favor of changing the name to the "Southern Association of Architects" and obtaining a state charter, and that open competition should be unprofessional, and about three-fourths were in favor of having honorary contributing members, and a fund for employing counsel to defend members in their rights before the courts of the country, and changing the time of meeting to late in the autumn, leaving a decided majority of all the members, whether active or otherwise, in favor of each proposition submitted.

It is the sense of a large majority of the members of the organization, that we are not tearing away from the A. I. A., but that a change of name is desirable and a state charter is necessary for the proper government of our organization; and beyond this, it is desirable to still be a chapter of the A. I. A., and to retain its charter, but under the new name, just as in the case of the Boston Society of Architects. The two charters would give greater strength, and at the same time would be no ground for disagreement.

This contemplated change, as above set forth, was induced by the fact that the by-laws of the A. I. A., as recently changed, conflict with the proper working and best interest of the organization, inasmuch as applicants for membership are being received from our territory into the A. I. A. without the endorsement, approval, or even knowledge of this organization, while this organization is denied the right to elect and enroll new members until approved by the A. I. A., besides a number of other regulations that are interfering with the objects of this organization.

It is sincerely hoped that the A. I. A. can see its way clear to modify its by-laws regarding the twenty-five-mile clause, the concurrent action on membership, increase of membership fee to \$10, and annual dues to \$10 in the Chapter, and that interference on the part of its Board of Directors shall cease regarding questions of policy of the Chapters, and of actions in private practice of the members of the Chapters, wherein their (the A. I. A.) constitution and by-laws are silent; for then there would be perfect harmony, and this organization would flourish as it did formerly. But of course it must remain with the A. I. A. to say what the relationship shall be.

So far as competitions are concerned, it is the sense of the members of the organization that open, irregular competitions shall be considered unprofessional, but does not necessarily condemn select competitions, conducted on such methods as are legitimate, and that will make awards according to merit.

Owing to the great territory covered by this association, it would seem to be desirable to have a number of smaller city or state organizations, instead of one so large, but when the full force of the truth is seen in the condition (and not a theory) that obtains, that there is not a single city, and only two states in the southern states that have A. I. A. members sufficient to form a Chapter, then it becomes very apparent that the organization covering the large territory is the proper one to foster.

It has been decided, and official notice is hereby given, that this organization shall be known in the future as the Southern Association of Architects, and that its constitution and by-laws shall be revised and made to conform to the spirit of the interrogatories voted upon in the letter ballot of March 3, 1896, which, with the charter, shall be submitted for ratification at the next annual meeting.

By virtue of the fact that no meeting for election of officers and directors was held under the by-laws of the Southern Chapter, the present officers and directors will hold over until their successors are chosen.

W. P. TINSLEY, Secretary and Treasurer.
M. J. DIMMOCK, President. Lynchburg, Va., May 13, 1896.

NEW PUBLICATIONS.

WE have received from the United States Department of Agriculture (Division of Forestry) Circulars Nos. 11, 12 and 13, Circular No. 12 being of special interest to architects, since it gives the result of experiments on "Southern pine." We quote the following from it as being contrary to the generally received ideas on the subject:

From the preceding table it would appear that large timbers, when symmetrically cut (i. e., with the center of the log as center of the beam), develop as beams practically the same strength as the average of the small pieces that may be cut from them, and sometimes even higher values, the explanation being that, cut in this manner, the extreme fibers which are tested in a beam come to lie in that part of the tree which, as a rule, contains the strongest timber.

To quote more than this would take up too much space, and we refer our readers to the circular itself for further information.

SYNONYMS, ANTONYMS, AND PREPOSITIONS.—A new volume on "Synonyms, Antonyms, and Prepositions" will shortly be issued by the Funk & Wagnalls Publication House. This has been prepared with great care by the Rev. James C. Fernald, editor of the Department of Synonyms in the Funk & Wagnall Standard Dictionary. The editor has carefully discriminated the chief synonyms of the English language, some 6,000 or 7,000 in number, by the same method that has won so much approval in the Standard Dictionary. Taking one word in each group as the basis of comparison, Mr. Fernald defines this clearly and then he proceeds to show how the other words agree with or differ from it, thus the whole group is held to one fixed point. The treatment is in popular and readable style. The book also contains a large number of Antonyms as well as Prepositions, and its closing pages are devoted to Questions and Examples of service to both teacher and student.

The type, brevity, is pleasing to the eye and the key-words at the top of each page enhance the value of the book for purposes of ready reference.

LETTERING FOR DRAFTSMEN, ENGINEERS AND STUDENTS: A Practical System of Freehand Lettering for Working Drawings By S. C. Reinhardt. D. Van Nostrand & Co., publishers, New York.

There are any number of books on "lettering" on the market, of more or less value; most of them devote themselves principally to ornamental lettering. This book differs from them in treating altogether of plain lettering, or as it is termed here, "One-Stroke Lettering." If there is one thing more wasteful than another, it

is putting ornamental lettering on construction drawings; the drawings go into the hands of workmen who do not appreciate the ornament and do not always comprehend the meaning. For working drawings, none other than the plainest lettering should ever be used, without any shaded lines or variation in thickness. All lines should be moderately heavy in order to be readily photographed, since nearly all our copies are now made by photography. This book inculcates this useful lesson, and if it successfully does so, it has well justified its publication.

OUR ILLUSTRATIONS.

Design for Church. E. G. W. Dietrich, architect.
Design for Residence. E. G. W. Dietrich, architect.
Residence for R. M. Zug, E. C. Van Leyen, architect.
Residence for F. P. Hall. E. G. W. Dietrich, architect.
An Adobe at Trinidad, Colorado, J. B. Fisher, del., Chicago.
Old Sparhawk House, Kittery, Maine. Built 1742. Frank C. Adams, del.

Residence for Charles A. Chidsey, Detroit, Michigan. E. C. Van Leyen, architect.

Exterior Details from the Sparhawk House. Measured and drawn by Frank C. Adams; also, Interior Details.

Old Colonial Details from Portsmouth, New Hampshire; also, Chippendale Chairs. Measured and drawn by Frank C. Adams.

Competitive Design for a Country Club, Second Year Architectural Class of Art Institute, Chicago. Submitted by Fred G. Mueller.

Photogravure Plate: Semi-detached Houses for Architect Donaldson, Detroit, Michigan. Donaldson & Meier, architects.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Mouat Flats, Detroit, Michigan. Mason & Rice, architects.
Engine House No. 18, Detroit, Michigan. Mason & Rice, architects.

Union Trust Building, Detroit, Michigan. Donaldson & Meier, architects.

Police Station, Belle Isle Park, Michigan. Mason & Rice, architects, Detroit.

Residence of William Livingston, Jr., Detroit, Michigan. Mason & Rice, architects.

Detail of Entrance, Masonic Temple, Detroit, Michigan. Mason & Rice, architects.

Front View, Office Building of Hiram Walker & Sons, Walkerville, Ontario. Mason & Rice, architects, Detroit.

MOSAICS.

ARTICLES of incorporation were filed in the recorder's office at Washington, D. C., on March 14, for the Association of American Draftsmen. W. T. Jones, Sidney I. Besselièvre, George P. Frothingham, W. T. Powell, A. M. P. Maschmeyer and Arthur B. Cassidy are the incorporators. One purpose is to discourage the employment of foreign labor in their department where equally satisfactory American draftsmen can be obtained. They also propose to help secure the careful, practical and technical training of all American draftsmen.

In a neat and somewhat unique card William J. Dodd and Arthur Cobb, of Louisville, Kentucky, announce that they are now associated as architects. Mr. Dodd was a draftsman in the office of W. L. B. Jenney, of Chicago, some twenty years ago, when that gentleman conducted a form of "atelier" in which so many young men who have since made national reputations as architects first learned the rudiments of the profession. Mr. Dodd has practiced in Louisville for many years, being the author of much of the best work in that city; recently, however, had exclusive charge of the designing department of the late firm of Maury & Dodd. Recognizing the desirability of supplementing his work by that of an expert construction engineer, he has made an alliance with Mr. Cobb, who, to a theoretical education, has added years of training and experience in the construction of some of the most prominent buildings in the country.

BUILDING OUTLOOK.

OFFICE OF THE INLAND ARCHITECT, }
CHICAGO, July 10, 1896. }

A careful and impartial observer of the course of trade must feel assured of the existence of a strong foundation in our business relations. The leading thought for three or four years with each individual, firm and corporation has been to cut down outlays, increase incomes and lessen the cost of force per unit and increase the production per unit of force expended. This process has been going on assiduously. Liquidation has been taking place, and at the same time an expansion of productive capacity which seems out of keeping with the general restriction going on. The process has not been without its advantages, but they have not yet reached the surface. During the past month prices have weakened and production has been restricted in many lines. Even in building operations the rush has partly subsided. Building material of all kinds has been uniform in price, as a rule, throughout the season. Capital is ready to flow in in large volume, but a more conservative disposition has arisen within a month or two and enterprises that were planned for midsummer initiation will be delayed. It seems strange from one point of view that mere questions of governmental polity should restrict commercial and industrial enterprise, but such appears to be the fact and tendency.

During the half-year just closed a fair, and, on the whole, a satisfactory volume of business has been done. The American loves to rush, to work at

high pressure, to expound and pile up business. To have to measure and control his speed, to have to watch the absorbing capacity of the market, is distasteful, but the business of 1896 has been conducted in this way. The production of goods has been enormous; building operations, as shown by totals, exhibit a wonderful aggregate. We ought, it would appear, to be satisfied, but having made calculations for heavier pressure, we are discontented at the lessened rate of speed.

There is reason for caution and occasion for the utmost prudence. The fundamental conditions are all in our favor. The masses of the people sometimes, but never twice in succession, make a mistake. Vital issues are now before the country. As a people we are in a transition era. The masses have faith in possibilities and results to be reached which the fewer who are in the forefront of political and financial councils may not have, but the outcome will be all right.

SYNOPSIS OF BUILDING NEWS.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than \$5,000 are not published.

Chicago, Ill.—Architects Cowles & Ohrenstein: For Messrs. Hirsch & Obermann, at Kokomo, Indiana, a four-story and basement tin plate factory, 68 by 142 feet in size; to be constructed of common brick, have the necessary machinery, engine, boiler pumps, dynamo, etc.

Architect Henry P. Beller: For P. Simon, alterations and additions to three-story and basement building at 495 Dearborn avenue; will put in all new quarter-sawn oak finish, the best of modern plumbing, gas and electric fixtures, steam heating and hot-water circulation, Wilkes heater in basement, electric light, laundry fixtures, electric bells, speaking tubes; cost \$9,000. For Frederick Becker, at southeast corner of Oak street and La Salle avenue, alterations of two-story building; all modern improvements; cost \$3,000.

Architect D. Mahaffey: For Rev. G. Snyder, remodeling building at 279 Seminary avenue into three-story modern flat; will put in all modern sanitary improvements, oak interior finish, mantels, sideboards, gas fixtures, bells, speaking tubes, furnaces, etc. For A. F. Rieberg, at 82 to 86 West Forty-eighth street, a three-story and basement store and flat building, 60 by 70 feet in size; to be of buff Bedford stone front, have gravel roof, oak and Georgia pine interior finish, mantels and sideboards, gas fixtures, electric wiring, bells, speaking tubes, steam heating, etc.

Architect Niels Buck: For Frank Stroben, a three-story flat building, 88 by 25 feet in size; to be built at Graceland avenue near Southport avenue, it will be of buff Bedford stone front, have interior finished in quartered oak and Georgia pine, sideboards, mantels, the best of open nickel-plated sanitary plumbing, gas and electric fixtures, furnaces, etc. Also two-story, basement and attic frame residence, 24 by 46 feet in size, at the corner of Tuttle and Ashland avenues; stone basement, hardwood finish, mantels and sideboards, the open plumbing, gas fixtures, hot-water heating. Also two-story frame houses on Grace street near Robey; brick basements, oak and Georgia pine interior finish, mantels, sideboards, gas, laundry tubs, etc.

Architects Lapointe & Hickok: For Rev. Bourdeau, a two-story parochial residence, at St. George, Illinois; it will be constructed of pressed brick on four sides, have quarter-sawn oak interior finish, mantels, sideboards and consoles, gas fixtures, laundry fixtures, the best of open nickel-plated plumbing, electric bells, speaking tubes, furnace, etc. For C. B. Holborn, a three-story store and flat building, 25 by 100 feet in size; to be erected at 126 Colorado avenue; to be of buff Bedford stone front, have oak and Georgia pine finish, the modern plumbing, gas fixtures, mantels, sideboards, etc.

Architect Theodor Lewandowski: For Charles Weber, a two-story, basement and attic residence, 28 by 54 feet in size; to be erected at Junior terrace, Buena Park; it will be of stone and pressed brick, with tile roof, have hardwood interior finish, mantels, sideboards and consoles, gas and electric fixtures, furnace, etc.

Architect John P. Hettinger: For G. F. Shuster, a four-story and basement flat building, 27 by 70 feet in size; to be erected at Oak street near Lake Shore Drive; the front will be of handsome design in Raindrop stone, the interior to be finished in oak and have all the modern conveniences, electric wiring and steam heating. For Mrs. F. Meyer, on Mohawk street near Garfield boulevard, a two-story flat building of pressed brick and stone front, modern improvements, furnaces, etc.

Architects Dwen & White: For John Q. Adams, a two-story, basement and attic frame residence, 30 by 40 feet in size; to be erected at Wheaton, Illinois; it will have a stone basement, hardwood interior finish, mantels, sideboards, consoles, gas and electric fixtures, laundry fixtures, hot-water heating. Also made plans for additions and alterations to residence on Thirty-third street; will put in the modern plumbing, gas and electric fixtures, oak interior finish, mantels, etc.

Architect A. Sandegren: For Frank Gustafson, a four-story and basement apartment house, 28 by 80 feet in size; to be erected at 4553 Oakwald avenue; it will be of buff Bedford stone front, have interior finished in oak, birch, maple and sycamore, the best of modern open plumbing, mantels and sideboards, gas and electric fixtures, etc. For S. Morris, at 198 Twelfth street, a three-story and basement flat building, 25 by 70 feet in size; to be of pressed brick, trimmed with buff Bedford stone, have quarter-sawn oak finish, mantels, gas fixtures, electric bells, speaking tubes, furnaces.

Architect A. Zimmerman: For Mrs. Fuchs, a three-story store and flat building, 130 by 200 feet in size; to be erected at 459 East Division street; to be of pressed brick and stone, have Georgia pine finish, mantels, sideboards, gas and electric fixtures, heating, etc.

Architects Huehl & Schmid: For Peter Hogan, at 136 North State street, a three-story and basement flat building, 25 by 70 feet in size; to be of buff Bedford stone front, have oak interior finish, mantels, sideboards, gas and electric fixtures, electric bells, speaking tubes, cement basement, steam heating, etc. For Henry Bartling, on Beacon street near Wilson avenue, Sheridan Park, Ravenswood, a two-story flat building, 25 by 68 feet in size; to have a buff Bedford stone front, hardwood finish, mantels, sideboards, the best of modern open plumbing, electric wiring, steam heating, etc.

Architects Franklin P. Burnham & Co.: Made plans for a two-story school, 40 by 50 feet in size; to be erected at Wilmette; to be of pressed brick and stone, have Georgia pine finish, gas fixtures, heating, etc. For John McFarland, a two-story frame residence, 31 by 37 feet in size; to be erected at Winnetka; brick basement, hardwood finish, mantels, sideboards, modern plumbing, hot-water heating, etc. For Charles Eastman, at Evanston, remodeling residence, new plumbing, heating, etc.

Architect H. B. Wheelock: For Hunt Brothers, at 17 Milwaukee avenue, a seven-story warehouse, 40 by 110 feet in size; to be of pressed brick, with Bedford stone trimmings; mill construction; have the necessary plumbing, steam heating, elevators, electric lights, etc.

Architect J. M. Hoskius: For Timothy Higgins, a two-story flat building, 24 by 60 feet in size; to be built at 450 Troy street; to be of granite, brick front, have Southern pine finish all through, modern plumbing, gas fixtures, etc.

Architects Fowler & Wright: For Mrs. Minnie M. Miller, a two-story, basement and attic residence, 25 by 53 feet in size; to be erected at Sixty-sixth street and Woodlawn avenue; it will be of pressed brick with buff Bedford stone trimmings, have hardwood finish, the best of modern plumbing, gas and electric fixtures, mantels, furnace, etc.

Architect Howard Van Doren Shaw: For J. H. Campbell, a two-story, basement and attic residence, 35 by 45 feet in size; to be erected at Beverly; it will be of pressed brick one story, and above of frame, have interior finished in quarter-sawn oak, mantels, sideboards, consoles, gas and electric fixtures, hot-water heating, etc. For Mrs. Paine, a two-story, basement and attic resi-

dence, 30 by 45 feet in size; to be erected at Dixon, Illinois; to be of frame with stone basement, have quarter-sawn oak finish, the modern open sanitary plumbing, gas and electric fixtures, bells, speaking tubes, laundry fixtures and driers, hot-water heating, etc. For M. Hosking, a two-story, basement and attic residence, 25 by 50 feet in size; to be erected at Calumet, Michigan; to be of frame with stone basement, have hardwood interior finish, mantels, sideboards, electric fixtures, furnace.

Architects Brompton & Lawson: Making plans for five two-story, basement and attic residences, 24 by 50 feet each; to be erected at Sunnyside avenue, near Perry street, for H. C. Wood; they will be of frame on brick and stone basements, have interiors finished in quarter-sawn oak, the modern open plumbing, gas fixtures, ranges and fireplaces, mantels and sideboards, laundry fixtures, etc.

Architect A. F. Hussander: For G. Burghart, a three-story flat building, 22 by 56 feet in size; to be erected at Sheffield avenue near Grace; the front will be of buff Bedford stone, the interior to be finished in quarter-sawn oak, have the best of modern plumbing, gas fixtures, mantels, furnaces, etc. Also making plans for three-story flat building, 29 by 76 feet in size; to be erected at Sheridan Road near Leland avenue; to be of blue Bedford stone front, have interior finished in mahogany, birch, oak and maple, special mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures, etc.

Architects R. T. Newberry: For M. E. Updike, a four-story store and flat building, 75 by 100 feet in size; to be erected at 4740 to 4744 Madison avenue; to be of pressed brick and stone front, hardwood finish, mantels and sideboards, gas and electric fixtures, steam heating, electric lights, gas ranges, etc.

Architect J. J. Egan: Made plans for a four-story addition to Mercy Hospital, at Calumet avenue and Twenty-sixth street; size 45 by 130 feet; to be of pressed brick and stone, have hardwood finish, the best of modern sanitary improvements and ventilation, elevators, marble work, electric light, steam heating, etc.

Architect C. E. Brush: Finished making drawings and will commence putting in the foundations at once for the four-story and basement apartment house at One Hundred and Fifteenth street, for James A. McLane; it will be 60 by 100 feet, of pressed brick with buff Bedford stone trimmings, tile roof, have hardwood finish, gas and electric fixtures, the best of modern plumbing, electric light, steam heating, etc.

Architect Richard E. Schmidt: For R. Baker, a two-story, basement and attic residence; to be erected at Bryn Mawr; to be of frame with stone basement, have oak finish, the best of sanitary plumbing, gas fixtures, etc. For H. R. Kent, a two-story, basement and attic residence; to be erected at Bryn Mawr; frame, stone basement, hardwood finish, gas and electric fixtures, hot water heating, etc.

Architect L. G. Hallberg: For Peter Nelson, a three-story and basement flat building, 25 by 60 feet in size; to be built at Melrose street, near Halsted; it will be of buff Bedford stone front, have oak and Georgia pine finish, mantels and sideboards, gas and electric fixtures, ranges and fireplaces. Also made plans for the three-story and basement apartment house, 52 by 70 feet in size; to be erected at Paulina street, north of Tuttle avenue, for the Bethany Home estate; the front will be of buff pressed brick with Bedford stone trimmings; the interior to be finished in quartered oak, have the best of open sanitary plumbing, gas fixtures, fireplaces and ranges, laundry fixtures, furnaces. Also made plans for a three-story flat building, 47 by 80 feet in size; to be erected at Ashland avenue, near Winnemac avenue; to be of pressed brick and stone front, have hardwood interior finish, the modern sanitary improvements, mantels and sideboards, gas and electric fixtures, heating, etc. For Ogden, Sheldon & Co., a three-story livery stable, 100 by 100 feet in size; to be erected at Indiana street, east of St. Clair street; to be of pressed brick and stone front, have plumbing, etc. For John Erickson, a three-story and basement flat building, 52 by 70 feet in size; to be erected at Wilson avenue, near Ashland avenue; to be of buff Bedford stone front, have interior finished in quarter-sawn oak, the modern open plumbing, gas and electric fixtures, mantels, sideboards, gas ranges and fireplaces, cement work, steam heating, etc. For M. J. Lissberger, a three-story store and flat building, 123 feet front and 48 feet deep; to be erected at the southwest corner of Thirty-first and Fox streets; it will be of pressed brick and stone, have galvanized iron bays and cornice, Georgia pine interior finish, the modern open plumbing, mantels and sideboards, marble wainscoting, steam heating, electric wiring.

Architects Handy & Cady: For E. M. Fuller, a two-story store and office building, 80 by 91 feet in size; to be erected at Madison, Wisconsin; it will be of pressed brick with terra cotta trimmings, have hardwood finish, marble wainscoting, tile floors, steam heating, electric light, etc. Also making plans for a handsome two-story, attic and basement residence, 46 by 64 feet in size; to be erected at Lincoln, Illinois; it will be of brick with tile roof, have hardwood interior, mantels and sideboards, gas and electric fixtures, gas ranges and fireplaces, heating, etc.

Architect F. W. Beall: For Mr. R. H. Catlett, a fine colonial residence, 47 by 48 feet in size; two-story, basement and attic; to be erected at Staunton, Virginia; the first story will be of stone and the rest frame, have elegant hardwood interior finish, mantels, sideboards and consoles, the best of modern plumbing, leaded glass, laundry fixtures, cement floor, marble wainscoting, tile bathrooms, hot-water heating.

Architects Hallstrom & Ockerlund: For Mrs. C. G. Johnson, a four-story and basement flat building, 25 by 60 feet in size; to be erected at 207 Sedgwick street; it will be of pressed brick and stone trimmings, have Georgia pine interior finish, gas fixtures, modern open plumbing, steam heating, etc.

Architects Marble & Demoney: For Mrs. C. H. Solomon, a three-story residence, 26 by 75 feet in size; to be erected at Washington boulevard; it will be of Raindrop stone front with copper bays and cornice, have interior finished in mahogany, birch and quarter-sawn oak, the best of open nickel-plated plumbing special mantels, sideboards and consoles, gas and electric chandeliers, electric bells, speaking tubes, electric light, etc. For John Michael, a three-story store and flat building, 25 by 100 feet in size; to be erected at 326 West Madison street; to be of terra cotta and pressed brick, have Georgia pine finish, the modern sanitary improvements, gas fixtures, steam heating, electric light, etc.

Architect F. D. Hyde: For L. B. Ruka, a two-story, basement and attic residence, 32 by 48 feet in size; to be erected at Boscobel, Wisconsin; to be of frame with stone basement, have hardwood finish, mantels, sideboards, consoles, hot-water heating, the best of sanitary improvements, etc.

Architect Dwight H. Perkins: For F. C. Brown, a two-story, basement and attic residence, 30 by 50 feet in size; to be erected at Highland Park; it will be a combination of brick and frame, have elegant hardwood interior finish, gas and electric fixtures, mantels, sideboards and consoles, tile bathrooms, etc.

Architect C. M. Palmer: For Daniel Daffin, a four-story and basement apartment house, 50 by 80 feet in size; to be erected at Forty-fifth street east of Grand boulevard; it will be of buff Bedford stone front, have interior finished in oak and Georgia pine, the best of modern plumbing, gas and electric fixtures, electric light, steam heating, etc.

Architect M. R. Carpenter: For Charles Raiser, a three-story and basement flat building, 28 by 80 feet in size; to be erected at 500 Seminary avenue; to be of pressed brick and stone front, have hardwood finish, mantels, sideboards, gas fixtures, etc. For Mr. Ure, a two-story frame house, 22 by 48 feet in size; to be built at North Hermitage avenue near Lawrence avenue; to have a tile basement, oak finish, mantels, gas fixtures, etc.

Architect G. C. Nimmons: For Mrs. M. J. Todd, a two-story, basement and attic residence, 32 by 50 feet in size; to be built at Bluffton, Indiana; to be of frame with stone basement have hardwood finish, all open plumbing, furnace, etc. For Mrs. J. McCormick, a two-story residence, 35 by 50 feet in size; to be built at Bluffton; frame, stone basement, hardwood finish, mantels, etc. For Mrs. M. Porter, a three-story apartment house, 100 by 63 feet in size; to be erected at 495 to 501 Belden avenue; to be of pressed brick and stone front, have all improvements.

Architect J. H. Wagner: For S. J. Sliffiff, an eight-story factory, 40 by 90 feet in size; to be erected at Clinton street between Monroe and Adams streets; to be of pressed brick and stone front, mill construction, have elevators, the necessary plumbing, steam heating, electric light, etc.

Architect George Beaumont: For McConnell Brothers, a four-story and basement apartment house, 100 by 116 feet in size; to be erected at Lake avenue near Thirty-ninth street; it will be of stone and pressed brick, have hardwood interior finish, all open sanitary improvements, gas and electric fixtures, gas ranges and fireplaces, laundry fixtures, steam heating, electric light, marble and tile work, etc.

Architect Jules De Horvath: For J. P. Atwater, an eight-story apartment house, 100 by 140 feet in size; to be erected at the corner of Chicago avenue and Rush street; the first story will be of rock-faced buff Bedford stone and above this will be of buff brick with stone trimmings, the interior to be finished in hardwoods, marble wainscoting, tile floors, mosaic floor for entrance, the best of modern plumbing, gas and electric fixtures, steam heating, elevators, etc.

Architect J. A. Miller: For Jacob Koch, a three-story and basement flat building, 25 by 60 feet in size; to be built at Oakdale avenue near Racine; to be of pressed brick and stone front, have hardwood finish, mantels, gas fixtures, steam heat, etc.

Architect Paul Gerhardt: For O. Arzbacker, a two-story residence, 35 by 48 feet in size; to be erected at Malden street, near Leland, Ravenswood; frame, brick basement, plumbing, furnace, etc.

Architects Gatterdam & King: For James Benuett, a two-story frame residence, 25 by 56 feet in size; to be built at Irving Park; brick basement, hardwood finish, mantels, gas fixtures, furnace.

Cleveland, Ohio.—Architects Coburn, Barnum, Benes & Hubbell, New England Building, have the following work: For the Western Reserve Historical Society a new \$50,000 pressed brick and terra cotta building, to be located on Euclid avenue near Wade Park; three stories high, with basement, steel and fireproof construction, tile roof, skylight, steam heat, plumbing, gas and electric light, mosaic and marble work, hardwood, mantels and grates, shelving, stained and ornamental glass and interior decorating. For the First Presbyterian Church, a parish house, to be known as the "Goodrich House," located at the southeast corner of Bond and St. Clair streets; pressed brick and terra cotta, gravel roof, plate and ornamental glass, steam and electric light plants with boilers, steel and mill construction, mosaic and marble work, plumbing, gymnasium apparatus, shower baths, grates and mantels, hardwood, interior decorating, skylights, ventilating; the mason work, terra cotta and steel work is contracted for; the building will be three stories high and will cost \$50,000. For Mr. Ben Patterson they have let contracts for the mason and carpenter work of a modern frame residence, to be built at the corner of Wade Park and Ansel avenues, to cost \$10,000. For the Standard Oil Company they are making extensive alterations in the company's building on Euclid avenue, remodeling it into a modern office building with rapid passenger elevator service and electric lights.

Architect H. J. Harks, New England Building, reports as follows: A six-story brick factory building on Michigan street, steam heat, plumbing; cost \$15,000. At Lorain, Ohio, a brick church, 50 by 90 feet; slate roof, plumbing, stained glass, steam heat, decorating; cost \$16,000. For St. Vincent's church, a four-story hospital building, to be known as St. Vincent's Hospital, 36 by 64 feet; brick, gravel roof, steam heat, plumbing, electric lights, decorating, painting; cost \$11,000. At Rockport, Ohio, a stone church, 50 by 105 feet; slate roof, furnace heat, plumbing, stained glass; cost \$12,000.

Architects Steffens & Seales, 416 New England Building, report the following: For the Pearl Street Savings and Loan Company, a banking office, apartment and lodge building, 50 by 120 feet, four stories high, at the corner of Pearl street and Clark avenue; pressed brick, gravel roof, plumbing, steam heat, electric lights bank fittings, elevator; cost \$40,000. For the Library Board, a branch public library at the corner of Clark avenue and Joseph street; one story, 4,000 square feet floor; steam heat, electric lights, shelving; cost \$10,000. For Mr. H. C. Stall, at Bellevue Ohio, a modern brick and stone residence, 72 by 80 feet; slate roof, hardwood, grates and mantels, plumbing, steam; cost \$20,000.

Denver, Colo.—Architects Mareau & Norten: For M. G. Turck, three-story apartment building, brick; size 50 by 100 feet; cost \$24,000. For Colorado Realty Company, two-and-one-half-story dwelling, stone; size 32 by 55 feet; cost \$12,000. For Colorado Realty Company, two-and-one-half-story dwelling, brick; size 32 by 50 feet; cost \$9,000. For Benedict Building Company, two-story dwelling, brick; size 26 by 39 feet; cost \$5,000.

Architect William Cowe: For Dr. T. J. Gallaher, two-story dwelling, brick; size 40 by 40 feet; cost \$10,000.

Architect W. E. Fisher: For D. A. Bancroft, two-story dwelling, brick; size 28 by 44 feet; cost \$5,000.

Architect Kerchoff: For M. Cowenhaven, one-story store, brick; size 50 by 125 feet; cost \$5,000. For H. C. Chapin, two-story dwelling, brick and stone; size 27 by 58 feet; cost \$5,000.

Detroit, Mich.—Architect R. E. Raseman: For Detroit White Lead Works, four brick buildings, at Milwaukee avenue and D. G. H. & M. R. R. crossing; to be three stories high; sizes, 47 by 150 feet, 82 by 150 feet, 41 by 150 feet and 41 by 126 feet; cost \$60,000. For C. W. H. Potter, two-story brick store, on Barclay street, near John R.; cost \$5,000.

Architects Malcombson & Higginbotham: For Board of Education, five two-story school buildings, ranging from twelve to eight rooms; to be built of brick; cost \$150,000. For Opera House, Ypsilanti, Michigan, three-story brick opera house building, on Congress street, Ypsilanti, Michigan; cost \$14,000. For J. B. Ford, Wyandotte, Michigan, two-story frame house, on Biddle avenue; cost \$9,000. For Detroit Soap Works, four-story brick addition to factory, corner of Dix and Twenty-fourth streets; cost \$5,000. For Scovel Memorial Chapel, brick building with slate roof, corner Grand River avenue and Twenty-fourth street; cost \$15,000.

Architects Mason & Rice: For Frank Walker, two-story brick and stone residence, on Jefferson avenue, near Jos. Campau avenue; size 60 by 80 feet; cost \$100,000.

Architects Rogers & Macfarland: For Mrs. John Owen, two-story brick colonial residence, on Jefferson avenue, opposite Owen Park; size 50 by 50 feet; cost \$25,000. For Edward H. Parker, two-story frame residence, corner Jefferson and Maxwell avenues; size 56 by 62 feet; cost \$13,000.

Architects Donaldson & Meier: For Wayne County Savings Bank, remodeling building from Masonic Temple to office building; cost \$75,000. For Tarry Melchers, two-and-one-half-story frame residence, on corner Jefferson avenue and Seyburn; cost \$5,000.

Architects E. A. Walshe & Son: For Philip Christa, three-story apartment house, corner Seventeenth street and Fort street West; cost \$10,000.

Architect W. S. Jay: For Calnon, Hubbard & Goodall, two-story brick apartments, corner Hancock and Lincoln avenues; size 50 by 120 feet; cost \$15,000. For Latimer Building Company, six-story office building, on Lafayette, near Griswold street.

Architects Nettleton, Kahn & Trowbridge: For Bethany Presbyterian Society, stone church building, on Champlain street, near Seyburn avenue; size 60 by 90 feet; cost \$13,000.

Architect M. L. Smith & Son: For John H. Fry, three-story double brick residence, on east side of Pitcher, near Second avenue; cost \$10,000. For Rev. D. D. MacLaurin, two-and-one-half-story brick residence, on Medbury avenue, near Brush street; cost \$7,000.

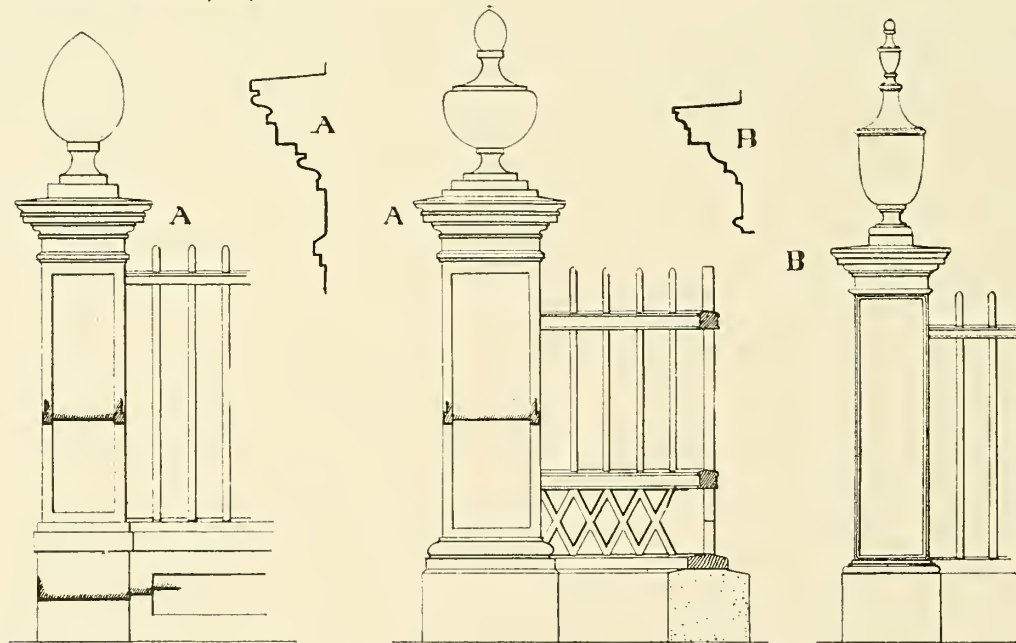
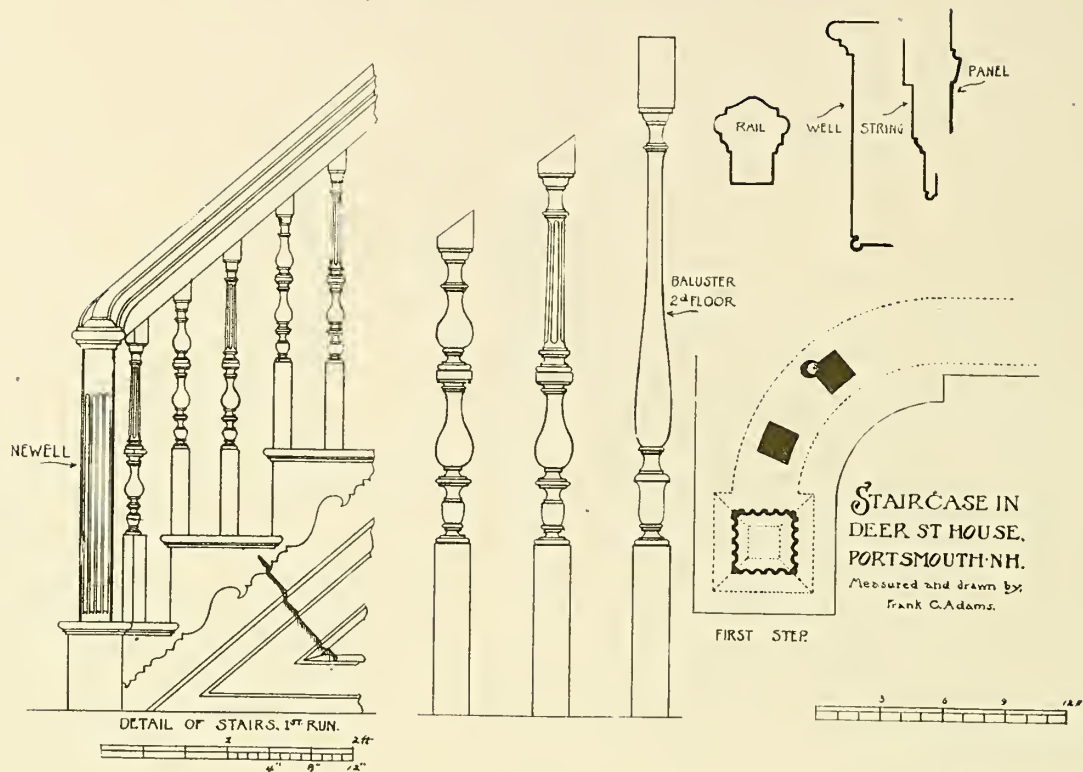
Architect Joseph E. Mills: For C. H. Reeves, two two-story brick residences, at Plymouth, Indiana; cost \$7,000.

Architect Joseph G. Kastler: For Frontier Iron Works, four-story brick addition, corner Chene and Atwater streets; cost \$7,000. For Bishop John Foley, Roman Catholic Parish School, corner Piquette avenue; to be two stories high and of brick; size 60 by 130 feet; cost \$15,000.

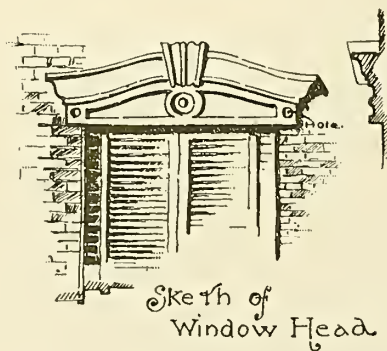
Architect Peter Dederichs: For St. Joseph Roman Catholic Parish, three-story brick parish residence, to be built on corner Jay and Orleans street; cost \$12,500.

Architect E. C. Van Leyen: For William C. Hensler, two-story frame residence, on Field avenue, near Waterloo; size 36 by 56 feet; cost \$5,000. For National Amusement Company, grand stand, corner Woodward and Monterey avenues, to seat 10,000; size 120 by 400 feet; cost \$5,000. For Police Commission, three-story brick and stone station, corner Hunt and Dubois streets; size 68 by 70 feet; cost \$22,000.

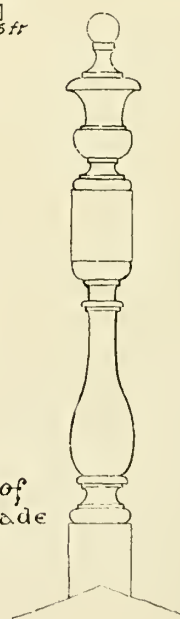
Architects Spier & Rohus: For Frank H. Bamlet, two-and-one-half-story frame residence, corner Woodward and Englewood avenues; cost \$8,000.

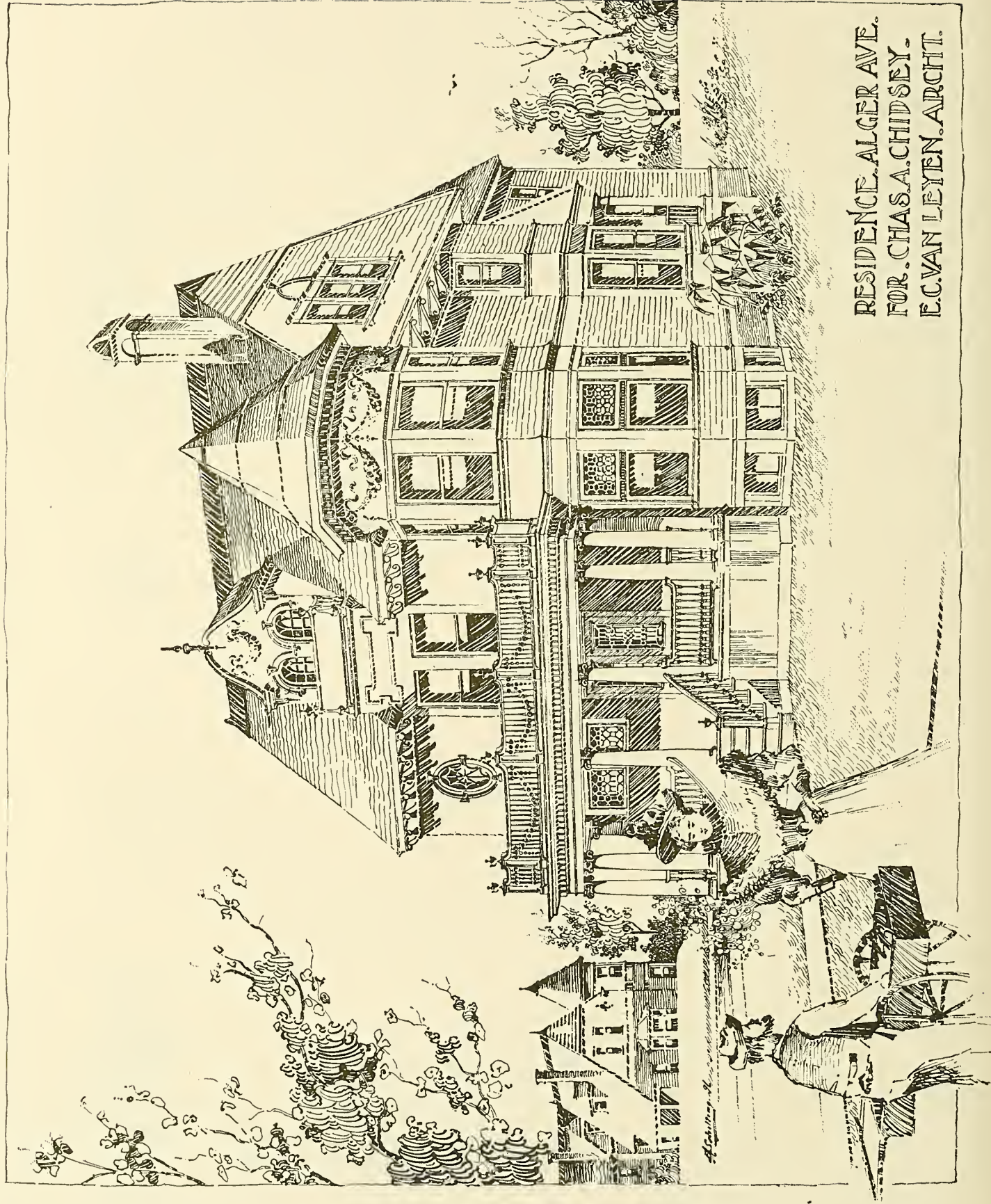


DETAILS OF COLONIAL FENCE POSTS FROM PORTSMOUTH NEW HAMPSHIRE,
Measured & Drawn by Frank C. Adams, Boston.

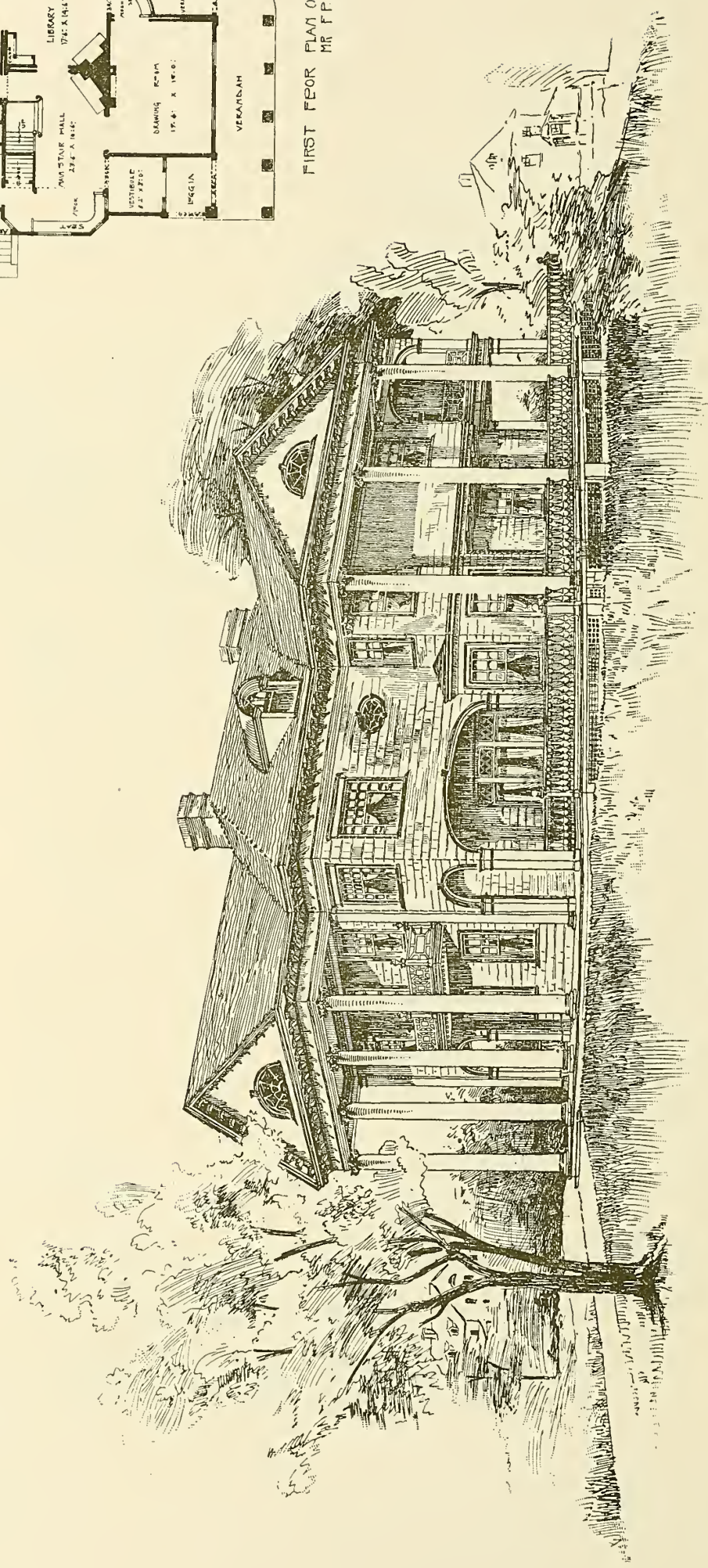


Corner post of Roof Balustrade

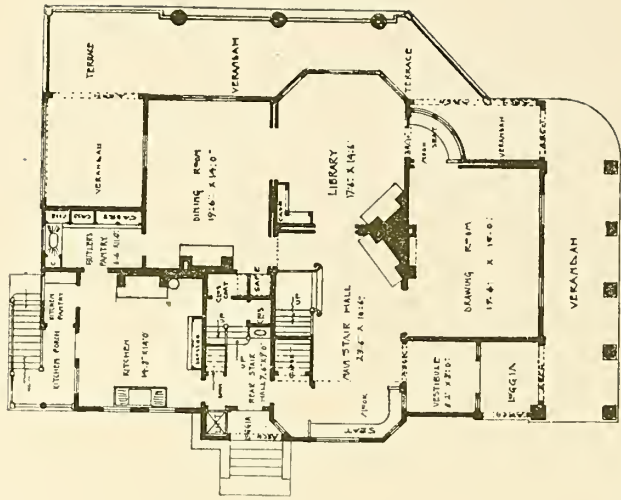




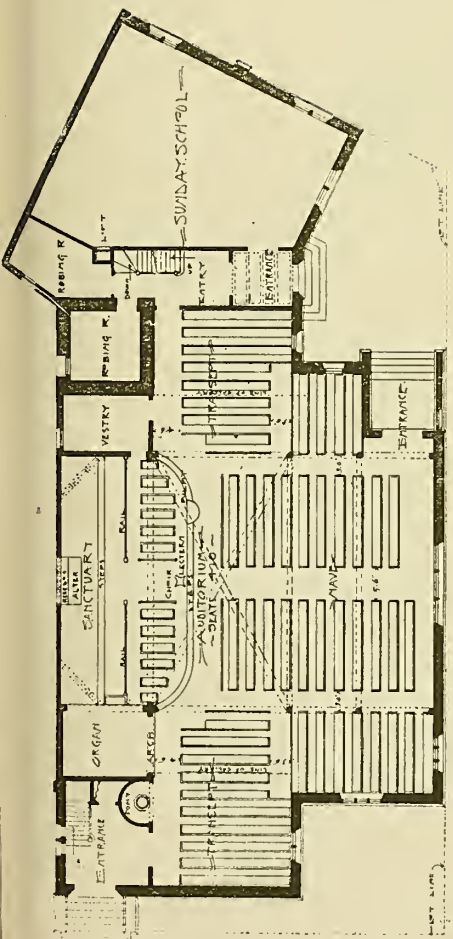
RESIDENCE ALGER AVE.
FOR CHAS. A. CHIDSEY.
E. C. VAN LEYEN, ARCHT.



Residence for Mr. F. P. Hall.
E. G. W. Dietrich: Architect.

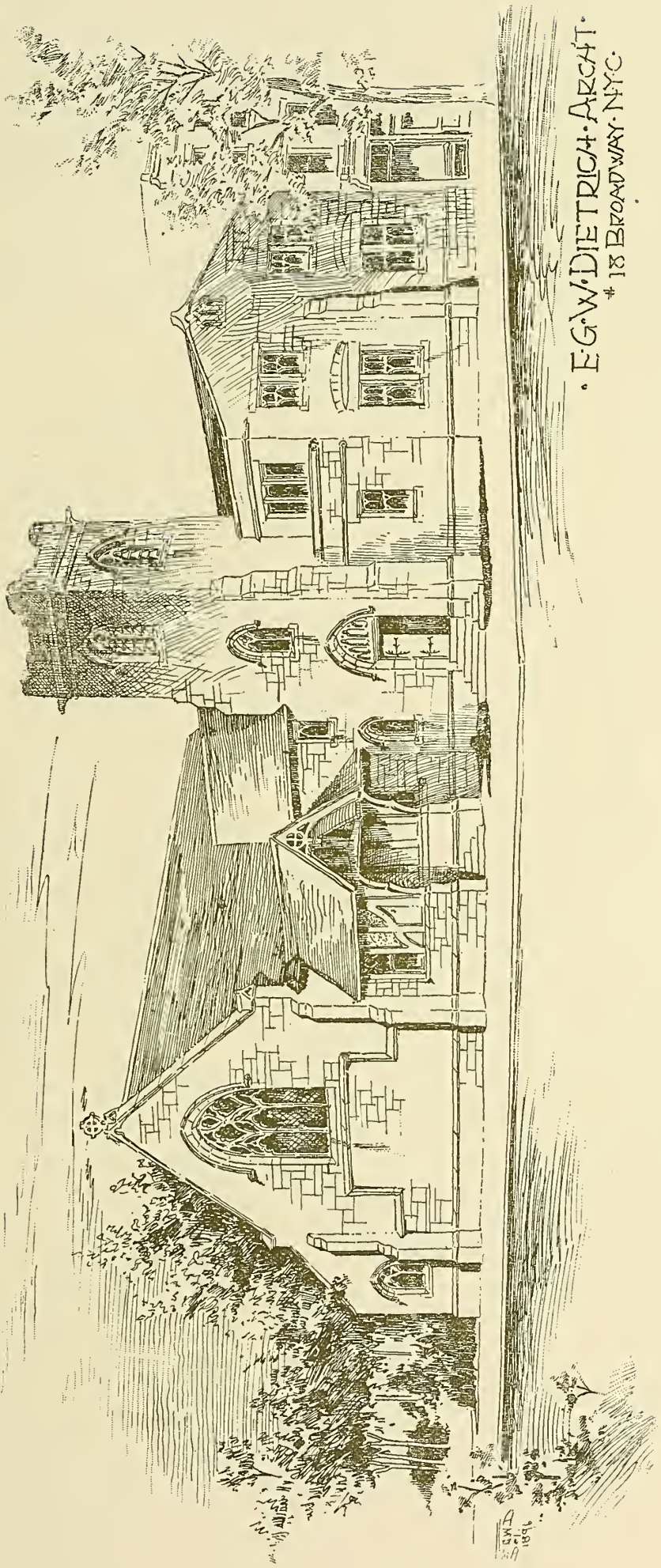


FIRST FLOOR PLAN OF
MR. F. P. HALL'S HOUSE

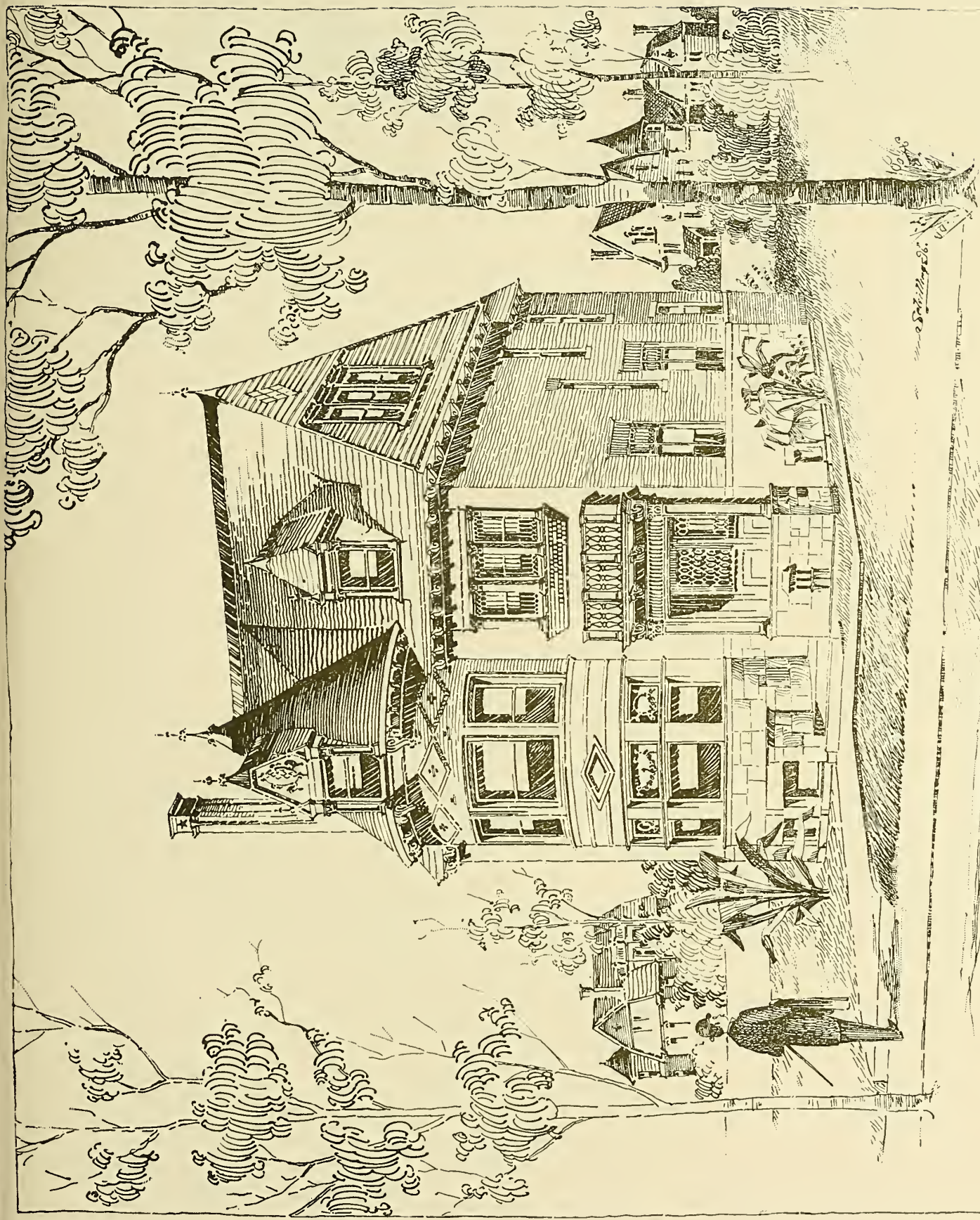


MAIN FLOOR PLAN — SCALE 1/4" = 1' —
GALLERIES SEAT 100

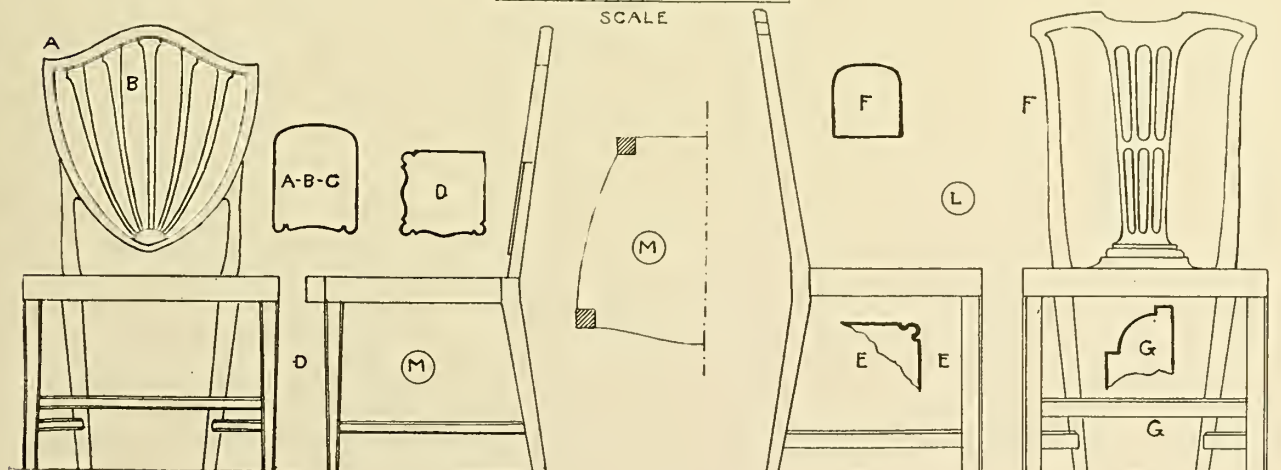
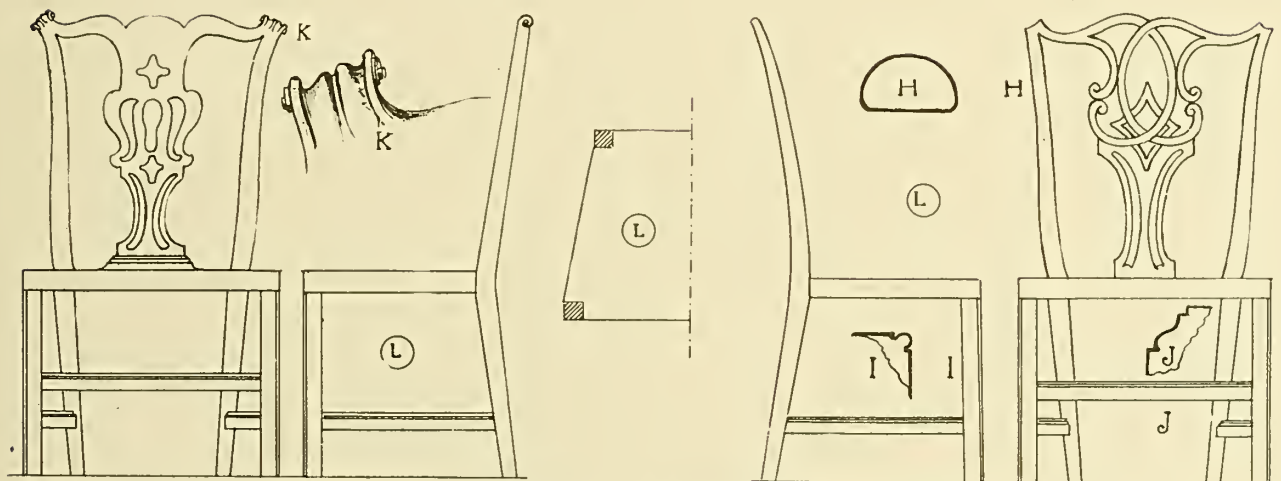
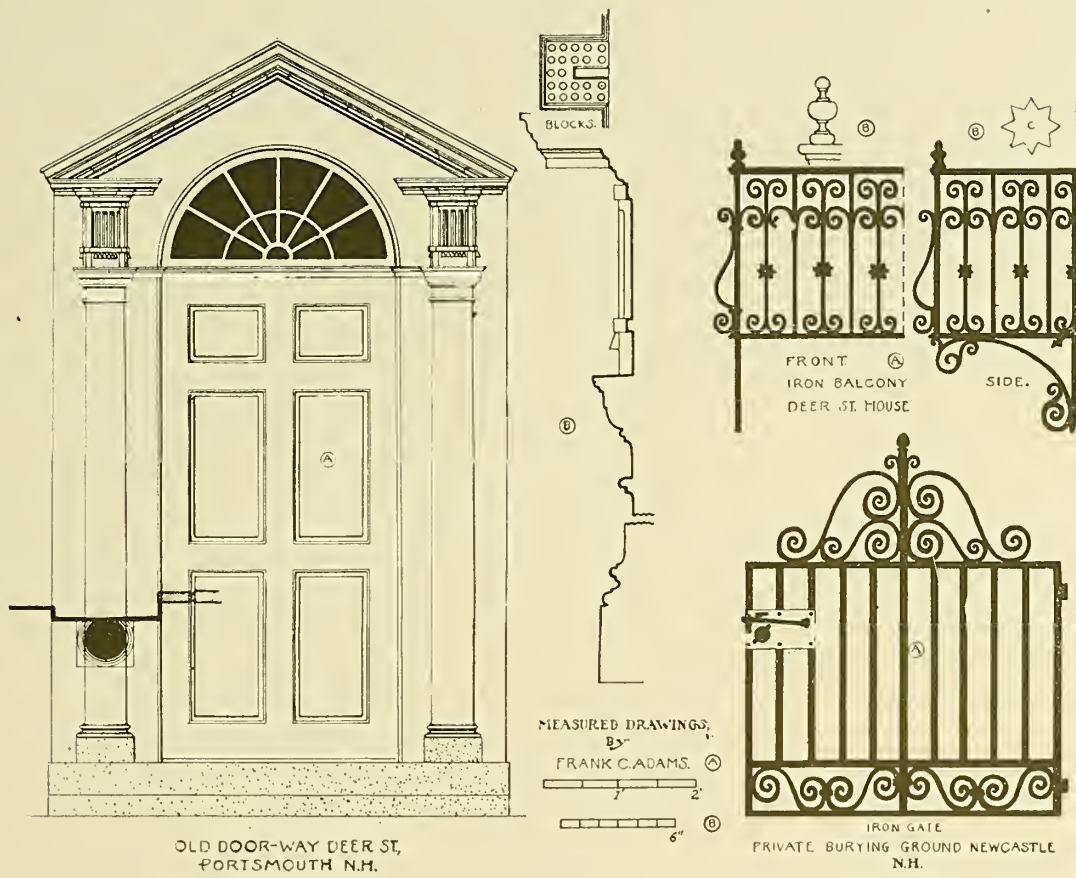
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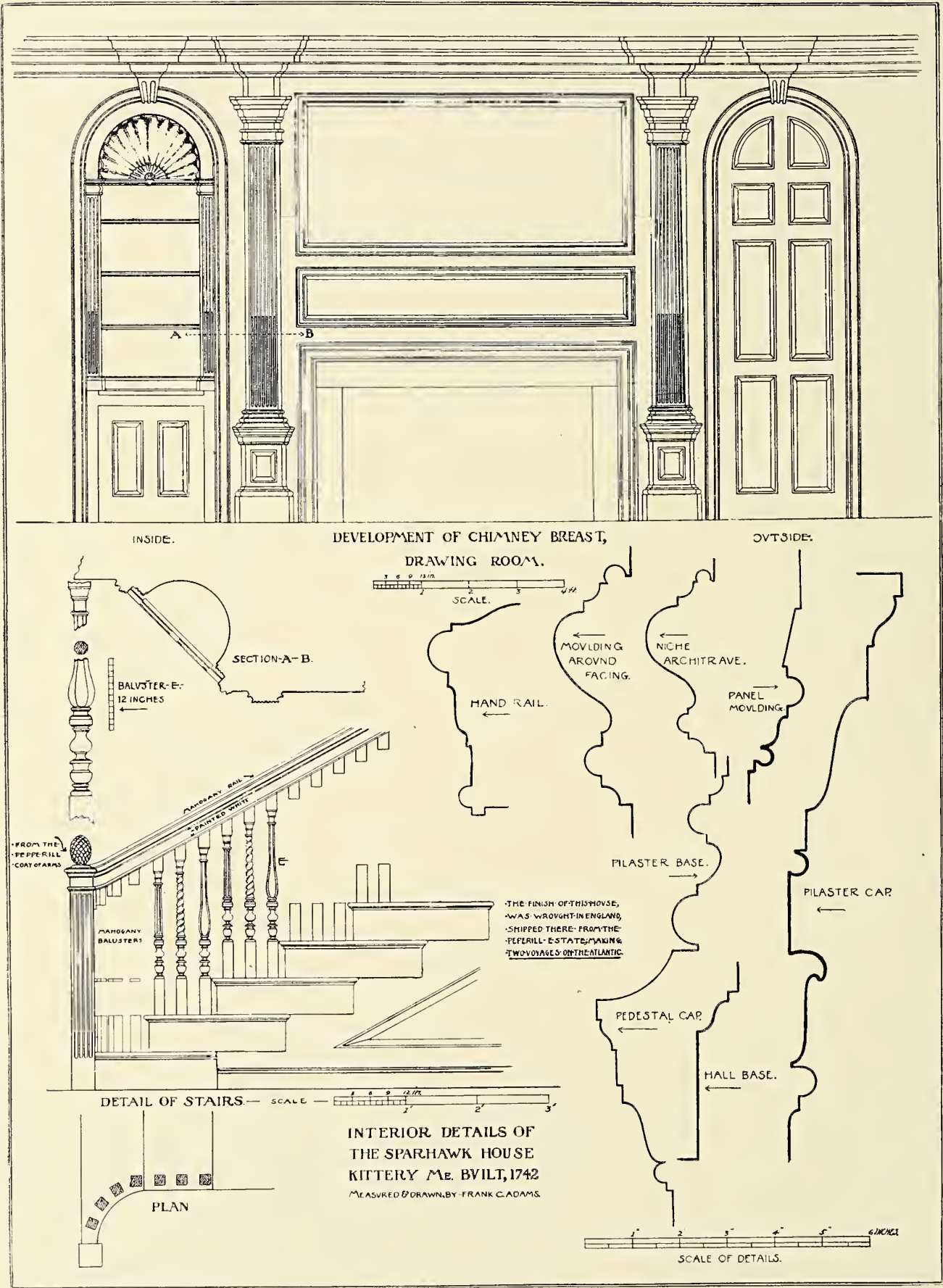


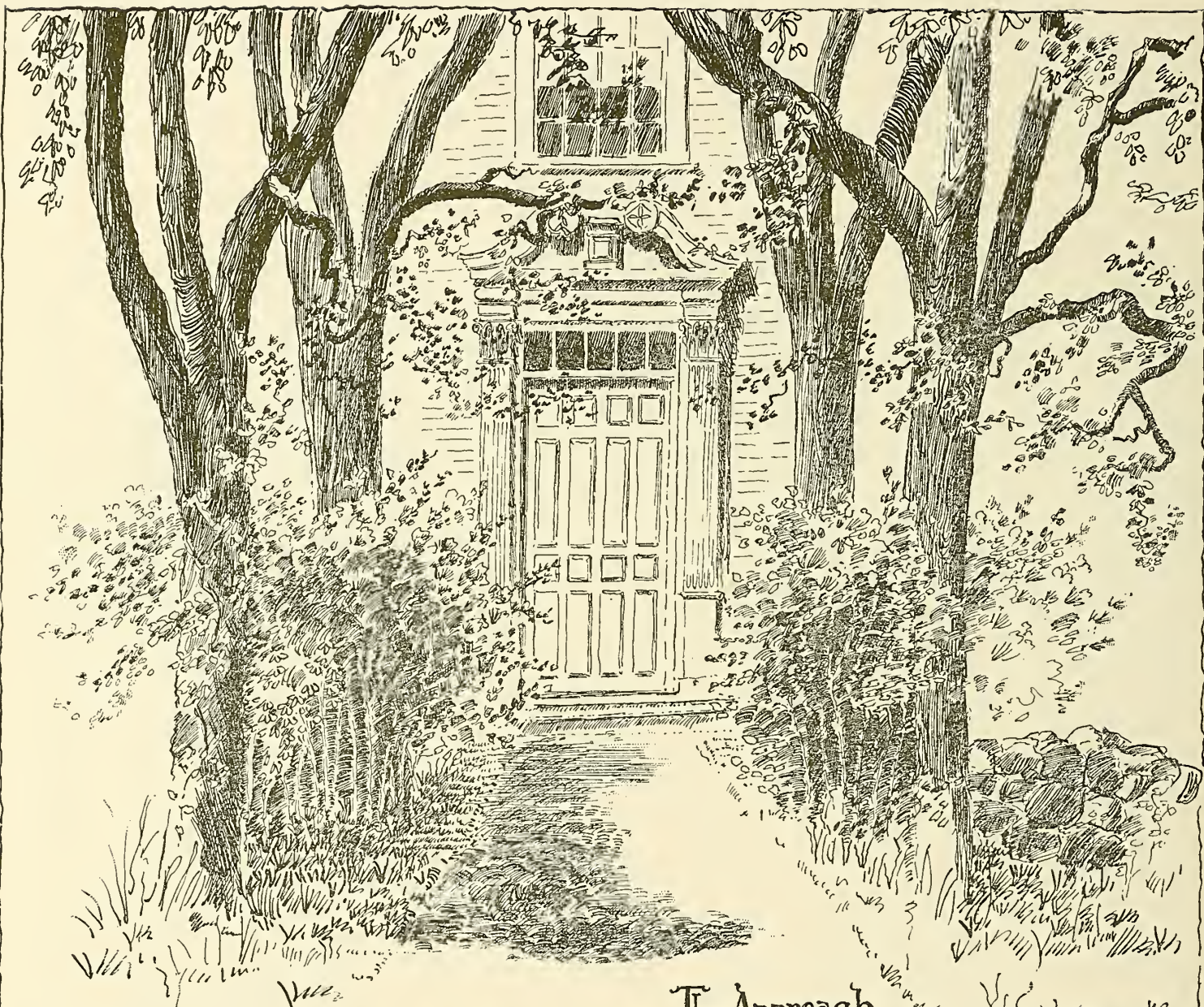
• E. G. W. DIETRICH • ARCHT. •
18 BROADWAY • NYC.



RESIDENCE FOR MR. R. M. ZUG.
E. C. VAN. LEYEN, ARCHITECT,



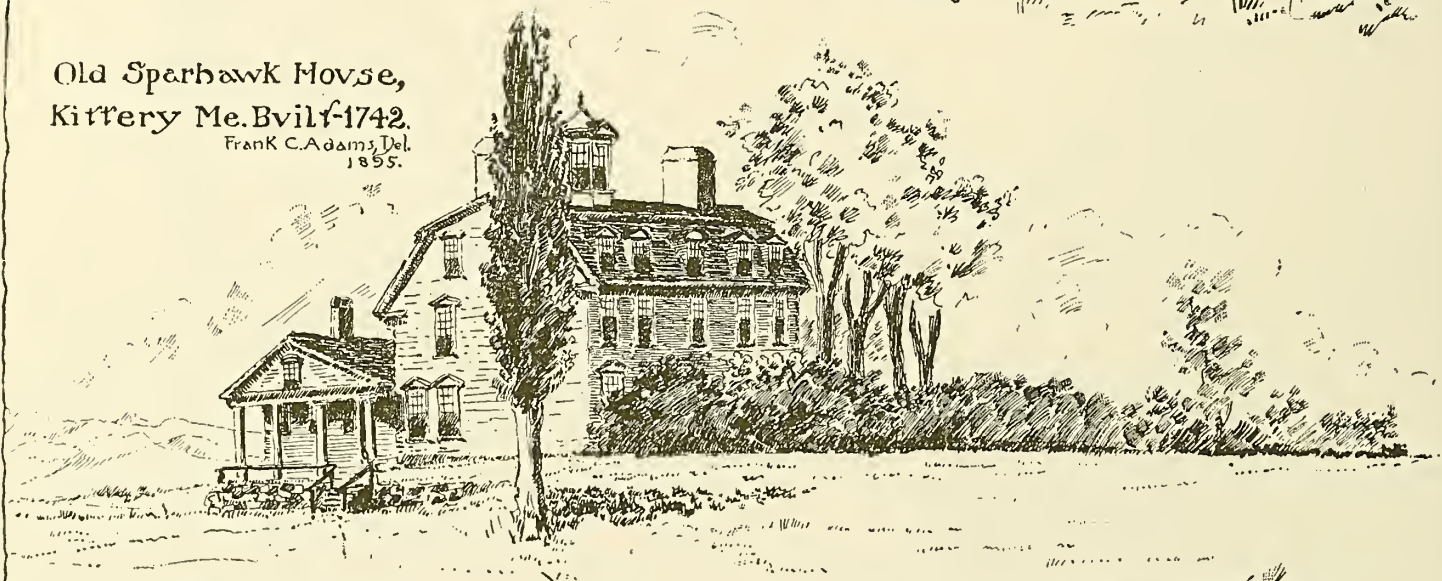




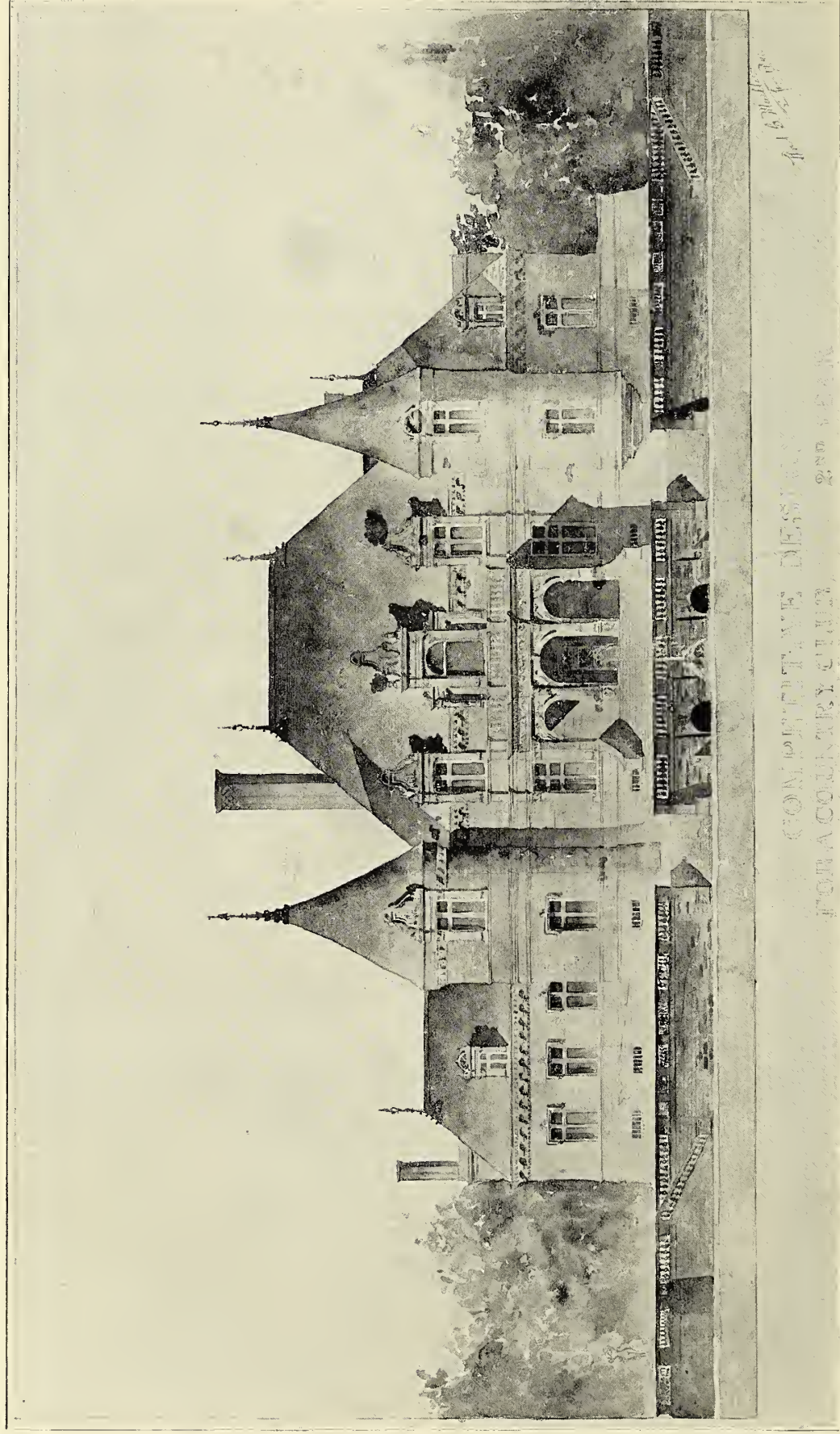
The Approach

Old Sparhawk House,
Kittery Me. Built 1742.

Frank C. Adams Del.
1895.



Seen
From the fields



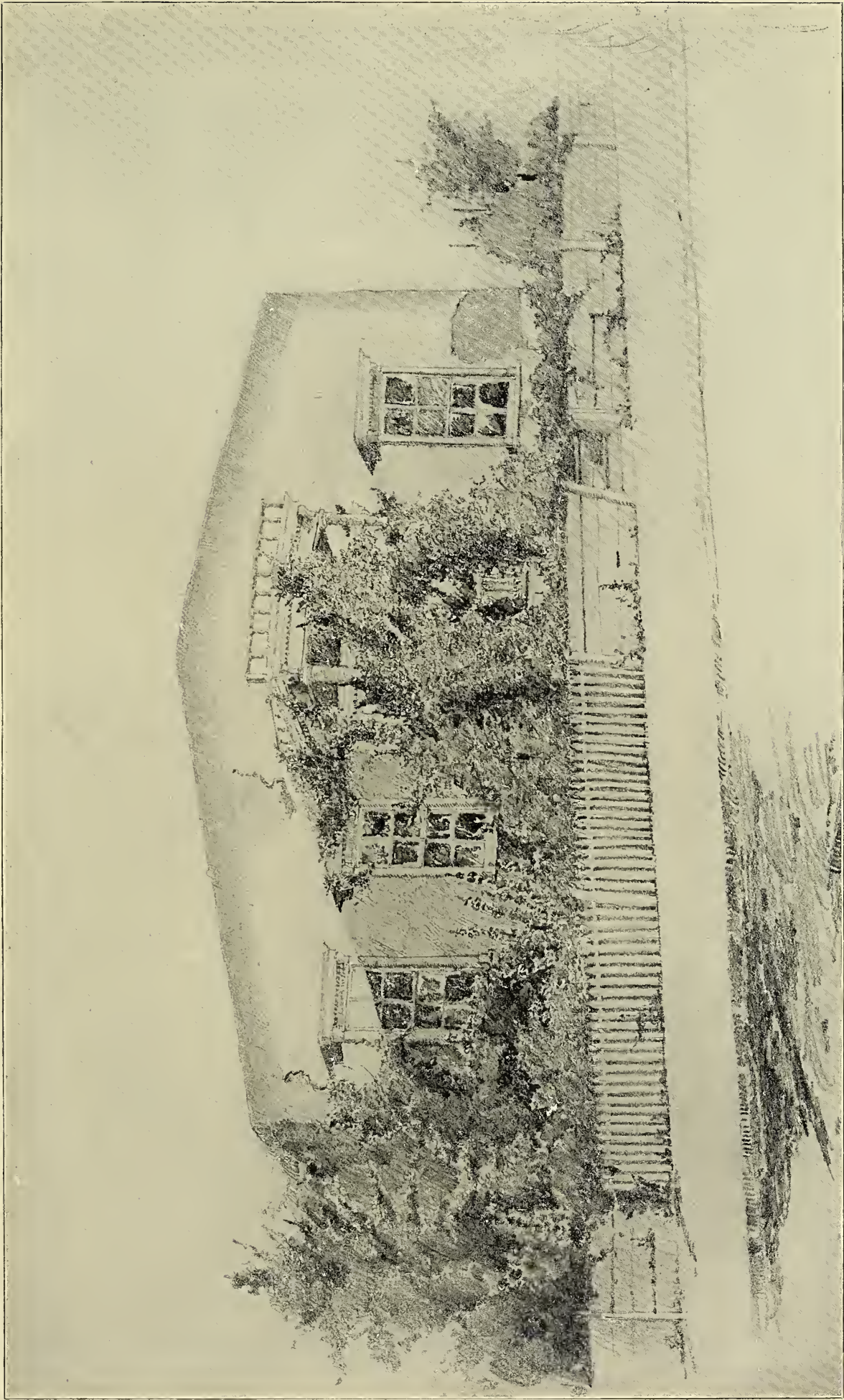
DESIGN BY F. G. MUELLER, OF ARCHITECTURAL CLASS, ART INSTITUTE, CHICAGO.



SEMI-DETACHED HOUSES FOR ARCHITECT DONALDSON, DETROIT, MICHIGAN.

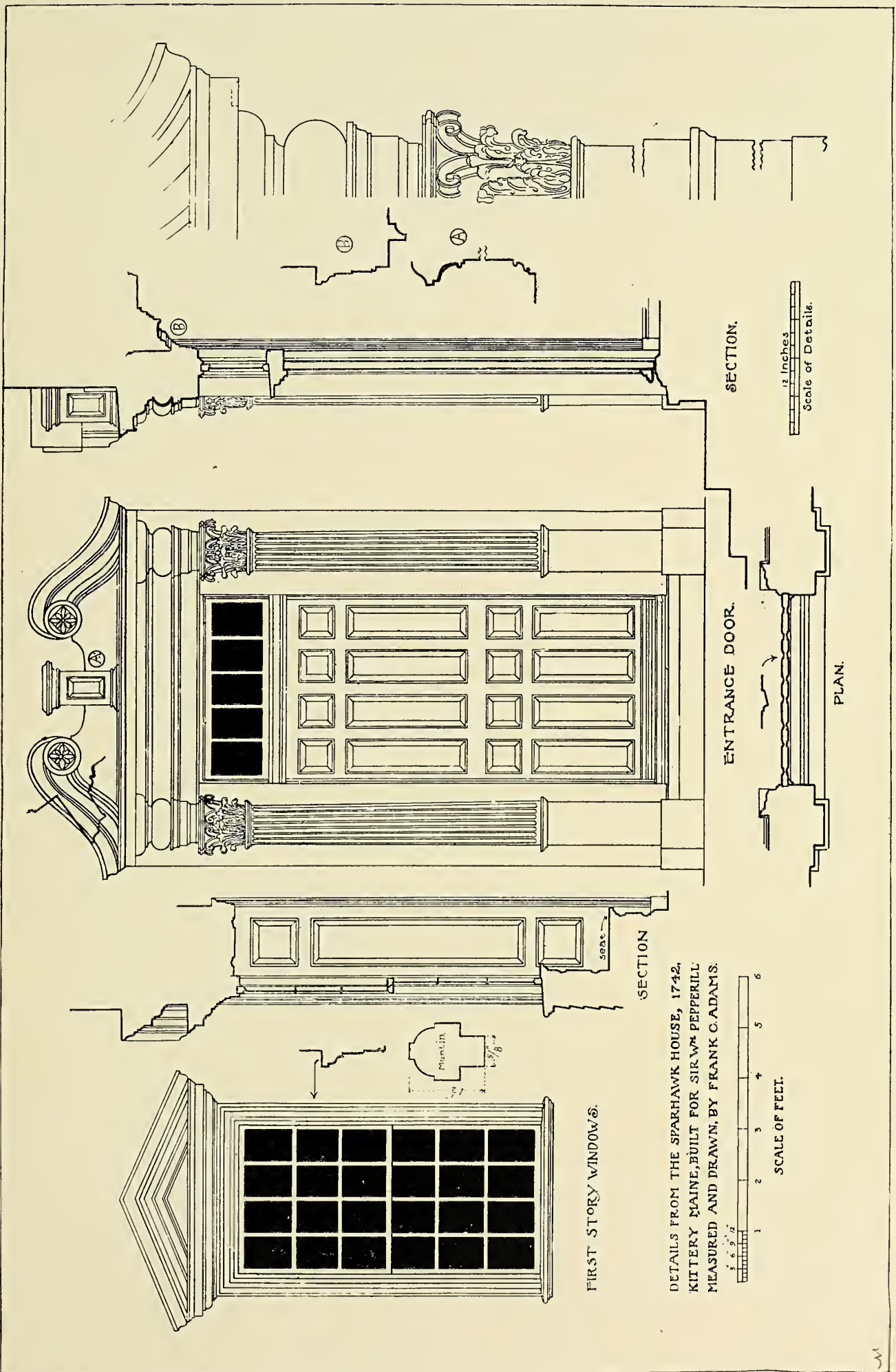
DONALDSON & MEIER, ARCHITECTS.

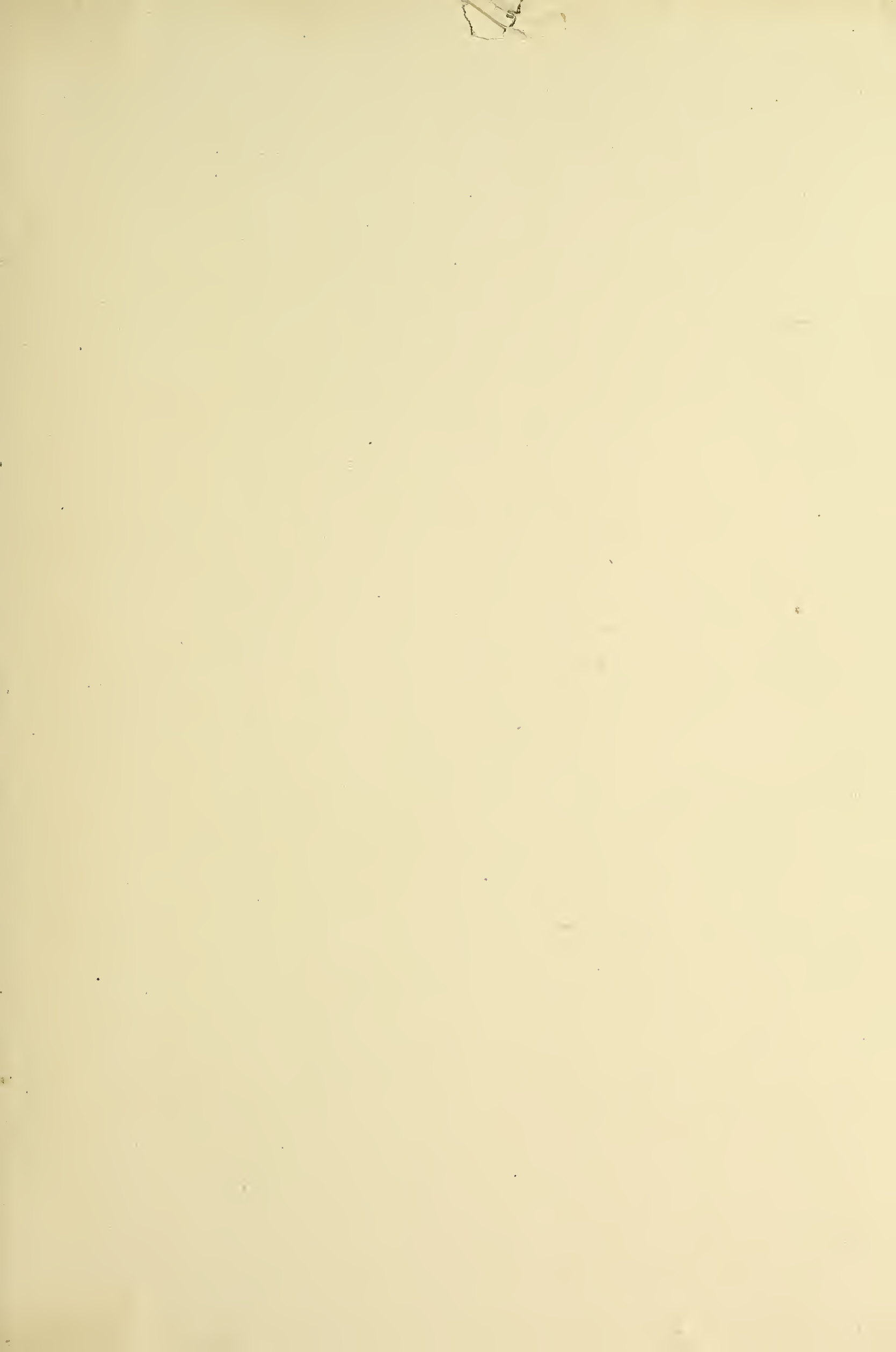
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AN ADOBE, AT TRINIDAD, COLORADO.

J. B. FISHER, DEL., CHICAGO.





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